FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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'Statesmanship Needed to Compete In Controlled Trade'

By RUSSELL TOKHEIM
Feedstuffs Staff

DES MOINES—The feed and grain industries need to do some careful research and tell their story ably if they are to compete in a feed and grain economy where the "federal government can quarterback the plays and bark the signals."

That was the advice given to members of the Western Grain & Feed Association of Iowa attending the group's annual convention here Nov. 20 and 21. Speaking was Al Oliver, executive vice president of the Grain & Feed Dealers National Assn., Washington.

Mr. Oliver's talk stressing statesmanship of the trade toward federal programs and a panel discussion en-

(Turn to 'STATESMANSHIP,' page 8)

Tennessee Feed Group Elects

By THOMAS E. LETCH
Feedstuffs Staff

MEMPHIS—Bruce Ballew, Farmers Milling & Elevator Co., Collierville, was elected president of the Tennessee Feed Manufacturers Assn. at its convention. He succeeds D. B. Gambill, Barry-Carter Milling Co., Lebanon.

New officers elected are: Jack Hudson, Cumberland Feed Mill, Clarksville, vice president for middle Tennessee, and Leonard Dienell, Allied Mills, Inc., Memphis, vice president for west Tennessee. Reelected were W. B. Carden, Quaker Oats Co., Chattanooga, vice president, east Tennessee, and Charles H. Warfield, Nashville, general counsel and executive secretary.

New directors elected are: Dave Ross, Nutrena Mills, Inc., Memphis; Clyde Greer, Swift & Co., Memphis; William W. Morehead, Cumberland

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Turkeymen Split as Marketing Order Hearings Open; Many Questions and Suggestions Voiced

By JOHN T. SHERRILL
Virginia State Poultry Federation

RICHMOND, VA.—The first of a series of regional public hearings on proposed turkey marketing orders to be held around the nation concluded here Nov. 22 with turkeymen agreeing that the industry was in the worst shape it has ever been. But they agreed on little else.

Witnesses disagreed on whether the orders are needed and whether they would be a self-help step or would open the door to full federal control. They disagreed whether they would save or scuttle the small independent grower. Fifty to more than 100 persons sat in on the hearings.

The orders, proposed by an industry advisory committee, would be the first on a nationwide basis for any commodity if approved. A referendum and a two-thirds margin of approval are necessary to put the orders into effect. USDA has scheduled five other regional hearings through Dec. 12.

For Grains, Too

W. D. Moore, Southern States Cooperative, Richmond, and president of the Virginia State Poultry Federation, testified at the hearings and recommended that federal marketing

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FEEDSTUFFS *Features This Week*

ANRC MEETING—A report on the annual meeting of the Animal Nutrition Research Council appears on **page 18.**

DELIVERY SYSTEM—The mobile bin delivery system inaugurated by a firm in England is shown in a photo story on **page 26.**

AGRIBUSINESS SERVICE—The technical service needs of agribusiness customers are discussed in this article. **Page 34.**

INFLUENCE OF PELLETING—The influence of pelleting on the energy value of poultry diets is described in this article. **Page 50.**

—REGULAR FEATURES—

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Good Potential for Dry Cat Food Sales Indicated

KANSAS CITY—The 1960 market for cat food amounted to $60 million in retail sales, Larry Aldenhoevel, advertising manager, Friskie Pet Food Division, Carnation Co., Los Angeles, told the Kansas City chapter of the American Marketing Assn. at a recent meeting. In addition, about $45 million of dog food was consumed by cats in 1960, bringing the total commercial market that year to the $105 million level.

The heavy volume of dog food being fed to cats is not surprising, Mr.

(Turn to CAT FOOD, page 92)

Report Says at Least 33 Processors Want To Sell to Purina

ST. LOUIS, MO. — The financial editor of a St. Louis newspaper says Donald Danforth, board chairman of Ralston Purina Co., has stated that the feed manufacturing firm plans further acquisitions of poultry processing firms and that at least 33 such companies, most of which have growing operations, have expressed a willingness to sell out to Purina.

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Report Cattle Bloat Decline by Feeding Antibiotic Combination

AMES, IOWA—Field trials on 15 Iowa farms showed about 67% reduction in bloat during the 1961 grazing season when cattle were fed a combination of several antibiotics, dairy researcher Dr. Norman L. Jacobson has reported.

Both the frequency of bloat and

(Turn to BLOAT, page 93)

How Soon Would Turkey Orders Influence Supply?

WASHINGTON—If proposed marketing orders for turkeys and turkey hatching eggs were to become effective soon, how long would it take the threadbare pocketbooks of turkey growers to receive some relief?

Not until well into 1962 in the judgment of U.S. Department of Agriculture price specialist Edward Karpoff.

Mr. Karpoff indicated in a presentation at the national Agricultural Outlook Conference in Washington that, even if the proposed marketing orders for turkeys or turkey hatching eggs were to become effective soon, they cannot influence market supplies until late summer, 1962.

That would be the earliest one

(Turn to HOW SOON? page 8)

Egg-Type Chick Hatch Up Sharply

WASHINGTON — Hatchery production of egg-type chicks during October showed another big percentage increase over a year earlier.

While output of chicks for laying flock replacement is now down seasonally, some big percentage increases have been shown recently, and fear has been expressed that the industry is building up to a serious over-production situation, with broiler operators in some cases switching to egg operations because of the depressed broiler situation.

The U.S. Department of Agricul-

(Turn to CHICKS, page 7)

Broiler Controls Less Popular

By ROBERT H. BROWN
Special Feedstuffs Correspondent

ATLANTA—The big question being posed in the heart of the broiler industry this week: "What was accomplished by the invasion of the South by USDA marketing order 'experts' who were out to 'explain' what said marketing orders could possibly do?"

At two major meetings—one in Atlanta and the other at Columbia, S.C. —nearly 1,000 broiler men assembled. They listened to the pros and cons, mostly pros, of plans for marketing orders, generally accepted as on the schedule for introduction in Congress after the first of the year, then picked up their hats and went home, notably refraining from committing themselves.

Significantly, it should be noted that the meetings were held in the deep South, where first efforts were made to obtain government controls or at least marketing orders.

In Atlanta, the attendance was so large the hotel where the meeting was held had to improvise in order to find sitting space for everyone. They came from all of the southern states, and Delmarva and as far west as Arkansas. At Columbia, S.C., the

(Turn to BROILERS, page 92)

Recent Nutrition Study Findings Presented at Washington Event

By DR. L. S. JENSEN
Washington State University

MT. VERNON, WASH.—Recent nutrition research at Washington State University and the University of British Columbia was presented to feed men attending the 14th Washington Animal Industry Conference Nov. 13-14 at Skagit Valley College, Mt. Vernon, Wash. The conference is sponsored jointly by the Washington State Feed Assn. and Washington State University.

Some of the points brought out at the meeting were:

- Broilers marketed at 10½ and 12 weeks of age gave more return to the grower than fryers marketed at 9 weeks of age.
- Taking advantage of a forage testing program may help feed dealers

(Turn to WASHINGTON, page 93)

Discounts Effect Of Current Gains

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The statistical eruption contained in the U.S. Department of Agriculture's hatchery report for October is that and not much more, according to some important sources here.

With a 43% increase over last year

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The regional circulation of this issue is concentrated in the northeastern states

Top of the Hopper

FEW FEED MANUFACTURERS, up to now, have taken a public stand on the turkey marketing order issue because of concern about how customers are likely to react. It's a touchy situation, they feel. Mostly they are keeping their ears to the ground to try to determine how sentiment is swaying and, meanwhile, keeping relatively mum.

Those who sell feed to independent turkey growers on a cash or financed basis say they are "damned if they don't and damned if they do" venture strong opinions on the marketing orders.

Some, however, are seriously considering putting out statements or information sheets giving their views on the implications of the proposed orders. One feed man said that marketing orders might benefit his firm's operations over at least a short term, but that as a responsible businessman and citizen, he doubted that he could sit back and not say anything about the orders, which he feels present serious problems and dangers for the turkey industry, agriculture and the economy as a whole.

BEHIND-THE-SCENES developments in Washington may yet have a greater effect on the question of turkey marketing orders, or any marketing orders, than presently meets the eye. For one thing, there are reports that there may be some major changes in the U.S. Department of Agriculture.

It is no secret that the high cost of the feed grain program—and its failure, or limited success, depending on how you look at it—may bring some consideration in top government circles of some changes in the agricultural administration. Depending on what happens to whom, it would seem that there could be changes in attitudes toward, or action on, such things as marketing orders for the turkey and other industries.

HERE'S A QUOTE from a talk by Orville Freeman, secretary of agriculture, at the opening of the recent National Agricultural Outlook Conference in Washington which succinctly expresses the general philosophy of the USDA's top brass: "The first year of the New Frontier has demonstrated that we can do more than analyze and interpret the economic outlook—we can change it for the better. Its implication for the future is the challenge of social engineering, of directing our abundant productive capacity in the interest of all."

A MAJOR EGG MARKETING cooperative which also is in the feed business recently adopted a policy of requiring any producer selling eggs through the co-op to buy his feed from the co-op. Formerly some other feed firms had been able to sell feed to the member producers.

A GENTLEMAN WHO HAS HAD a lot of experience in feed additive marketing problems observes that the pharmaceutical industry could profitably take some tips from the food industry in attempting to determine probable demand for new products before full-scale distribution is attempted. All products that appear to scientists and to sales people as useful and economically sound do not necessarily win buyer acceptance for one reason or another, and thus some costly market development expenses go to waste.

Food companies, this marketing man points out, frequently conduct scientifically-designed market tests among a limited number of people of new products to determine whether consumers verify the manufacturer's enthusiasm for it, and to what degree. The cost of this sort of preparation

(Turn to TOP OF THE HOPPER, page 39)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Feed sales volume varied widely through the nation this week, much of the difference being attributed to weather conditions. In New England it was said that a snow storm "piled up the orders." In other areas, a freeze or a snow storm would be a boost to business also, it was indicated.

The Thanksgiving holiday, of course, also made its effect felt. Some manufacturers said they would not have to operate any overtime to catch up while others said a five-day week would still be necessary.

Dairy and cattle feed continue to increase in importance to the manufacturer. Broiler feed accounts for sizeable volume in some places. But, it is reported from the Southeast that some broiler operations are going under due to the long period of low prices.

The wholesale feedstuff price index this week dropped 1.2 points to 81.5, compared with 70.3 a year earlier. The hog-corn ratio dropped as hog prices declined, based on Chicago prices. It was 14.8 this week, 15.2 last week and 18.9 a year ago.

The feed-grain index declined 0.3 point to 64.7, which is still well above the 55.8 of a year ago. (Major market roundup and ingredient quotations appear on pages 90-92.)

Northwest

Business volume in this region ranged from about the same as last week to off slightly. Several firms reported that volume would be maintained at a level with a week earlier despite the Thanksgiving holiday. Others said that the holiday would cut the week's volume somewhat although the day after the holiday was expected to be an extra good day.

Dairy and beef cattle feeds are reported to be moving better.

Prices are expected to be unchanged to slightly lower. Feed men indicating price declines expect them to range from 60 to 80¢ a ton on concentrates and less on the complete feeds.

Southwest

There were some reports of slower feed business this week, but, for the most part, mixers indicate that business is maintaining the pace of the past few weeks. Most plants report that they expect to operate on a five day schedule in spite of the Thanksgiving holiday.

Cattle feed shipments are still heavy and make up the bulk of the volume. Wet weather has kept cattle out of the wheat fields which has contributed to a heavy volume of cattle feed.

Hog feed sales are fair, but some trade sources indicate volume in this line is somewhat lower. Dairy feed business is reported as very good with favorable milk returns responsible for the improvement.

Poultry feed sales are spotty but still represent important volume in some areas.

Southeast

Formula feed business in the Southeast continues to improve each week, with the most improvement being in dairy and cattle feeds. This is due to the drying up of pastures, as well as the many cattlemen now beginning their fall feeding program.

Broiler feed manufacturers continue to operate at about 65 to 70% of normal as a result of the cut-back in the placement of chicks. Broiler prices improved 1¢ lb., with sales being made this week at 13¢ lb., f.o.b. the farms. Growers continue to operate at a loss, and it is reported that many are beginning to go out of business.

Northeast

Mixers' running time held at fairly high levels, despite the holiday, as demand for dairy feeds continued to increase.

A snowstorm in the New England states "piled up orders" and in the western New York area orders were also on the upturn.

In the latter area, demand was at about a standoff between high-protein mixed feeds and low-protein complete feeds. Some consumers are buying carloads of western corn to mix on the farm, while other consumers, lacking mixing equipment, are content with complete feeds.

There was a good amount of egg mash sold in the western New York area, and some broiler feeds are showing up in the over-all tonnage, but turkey feeds are "done."

With some feed manufacturers putting in overtime, running time in the western New York area averaged 36 hours, and it is 32 to 40 hours in the New England states.

Central States

Commercial mixed feeds moved on a fairly even keel during the week. While not quite holding its own with the first three weeks of October, sales volume was better than during the same period last November.

There was a good general call for hog, dairy and feeder cattle feeds. Movement in cattle feeds was rather noticeably improved over late last month and very early this one.

Egg feeds are moving well, too. There is more evidence of further broiler cutbacks, judging by the further let-down in the demand for that type of feeds. And, of course, the turkey season is now all buttoned-up, and there is no logical expectation for anything other than sporadic call for turkey feeds.

Ohio Valley

Demand for feed was steady. A very slight increase was noted for cattle and hog feeds.

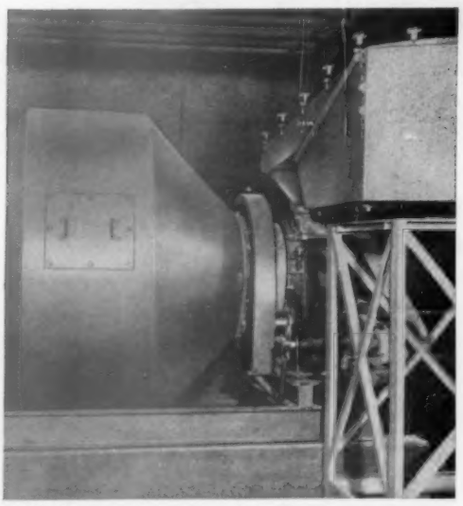
In retail markets, turkeys were sold for 25¢ lb. with a $10 food order. Eggs advanced 2¢.

South Central

Formula feeds continue to move in good volume, but the Thanksgiving day holiday cut into total deliveries for the week. Although the mills resumed operations Friday, little need is seen at most mills for overtime runs to make up for the loss of output due to the holiday closing.

Hog feeds keep moving very well. One spokesman described the hog feed business at his plant as "tremendous." Pig feed deliveries too are substantial. Cattle feed outgo has tapered off a little, due mostly to the heavy stocking up by feeders in previous weeks. Poultry feed operations

(Turn to MARKETS, page 95)



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Broiler Study Shows Higher Feed, Labor Costs in Delmarva

COLLEGE PARK, MD. — The regional advantages and disadvantages of growing and processing broilers in Delmarva are laid on the line in the results of an industry-wide study made available here.

Conclusions of a joint report compiled by the University of Maryland and the University of Delaware note that while Delmarva has a location advantage in transporting processed birds to northeastern markets and gets higher prices for ready-to-cook broilers, it must contend with the disadvantages of higher production and processing costs than most other areas. These higher costs, the report says, are principally due to more expensive labor and feed transportation disadvantages.

Highest Freight Rates

Dr. Harold S. Smith, University of Maryland agricultural economist, reports that Delmarva continues to pay the highest freight rates of any area. All three of the major broiler areas in the Northeast have received rate increases on feed since 1959, he relates, while other major broiler production areas have obtained reductions of up to $2 ton in transportation rates. These comparisons were made on a basis of one commodity moving from a point of origin to each of the areas by common carrier.

"With the continued high freight rates in effect," he said, "Delmarva feed manufacturers have had to shift their sources of supply on principal ingredients." For example, only about 5% of the area's corn needs now come from the Midwest. In 1958, the percentage was 38.

Dr. Smith notes that the reduction in movement from the Midwest has amounted to about 6.3 million bushels of corn alone. Other phenomenal shifts have taken place in sources of soybean meal, according to the transportation phase of the study reported on by Dr. Smith.

Proposals for freight rate changes which would have an effect on the Delmarva broiler industry are discussed and evaluated in the report.

Dr. N. V. Helbacka, University of Maryland poultry department professor, says the study indicates Delmarva processors generally receive a higher price for ready-to-cook broilers but pay a higher price for live birds.

Other Findings

Other findings show that Delmarva and Georgia have an advantage because of a shorter haul of live birds than Arkansas, Mississippi and Alabama. Cost of procurement showed up lower for Delmarva than other areas.

Live prices are highest in Delmarva because of growing a heavier

(Turn to STUDY, page 93)

Arkansas Turkey Federation to Meet

RUSSELLVILLE, ARK.—Developments in the turkey industry, including a discussion on proposed marketing orders, will be features of the annual meeting of the Arkansas Turkey Federation here Dec. 1-2.

Besides a panel discussion on the current issue of marketing orders, other program highlights include:

"The Latest in Turkey Research," Dr. E. L. Stephenson, University of Arkansas; "What's New in Turkey Breeding?," Dr. John Quisenberry, Texas A&M College, and "Ideas in Turkey Merchandising," M. C. Small, executive secretary, National Turkey Federation.

Congressman James W. Trimble (D., Arkansas), Berryville, a large turkey-producing center, will be the highlight speaker. He will address a banquet meeting the evening of Dec. 1.

Suggest Merchandising Plan for Chickens With Breast Blisters

MADISON, WIS.—Breast blisters, the number one problem in growing, processing and retailing young roasting chickens, can be successfully attacked through a "pre-carved" merchandising plan, according to American Scientific Laboratories, Inc. (ASL), supplier of Lipamone.

ASL is making available a number of promotional materials to back up this plan.

The merchandising idea is simply to section birds downgraded because of breast blisters into pieces to serve 6 to 8 people and promote them as "pre-carved young roasters." In this way the breast blister is removed without affecting the appearance of the cut-up chicken. The result is a new product which can command a profitable retail price when vigorously promoted, ASL states.

Since the breast blister does not in any way affect the wholesomeness of the bird, the "pre-carved young roaster" has all the tender, juicy fed-in qualities of the whole young roaster, plus some special sales features of its own, such as: Convenience to the homemaker of a "pre-carved" large bird; it's a versatile bird—meaty pieces for barbecuing, roasting or broiling; pieces are large enough for individual stuffing; one package serves 6 to 8 people; and it satisfies a consumer preference for larger cut-up birds.

To help merchandise "pre-carved young roasters," as well as the whole birds, ASL has prepared a number of new recipes designed to help the homemaker prepare new and different chicken meals for family and company serving. The recipes are suitable for package insertion, if desired, or may be used as hand-outs or bag stuffers. Other promotional materials also are available.

Maine Poultry Meeting Set Dec. 7 in Augusta

AUGUSTA, MAINE—Many aspects of Maine's poultry industry will be discussed at the fifth annual Maine Poultry Servicemen's Meeting Dec. 7 in Augusta.

The meeting will be held in Capitol Grange Hall on Route 17 just outside Augusta. It is sponsored by the Maine Cooperative Extension Service and the Maine Poultry Allied Industries.

At the opening session, a panel will discuss "Laryngotracheitis in Maine—Past, Present and Future." Moderator will be Leroy Brown, Waldo county agent, Belfast. Panel members and their topics will be: Dr. J. F. Witter, University of Maine, Orono, "Symptoms, Types, LT in Other Areas;" Francis Buzzell, Maine Department of Agriculture, Augusta, "Maine's Control Program to Date and Present Status of LT;" Langdon Andrews, Wirthmore Feeds, Camden, "Field Experiences and Evaluation of Control Program," and Irvin Berry, Penobscot Poultry Co., Belfast, "Control Program for the Future."

A speech, "What's New in Poultry Products Development?", by Dr. Robert Baker, Cornell University, New York, will conclude the morning program.

Afternoon presentations will be: "Working Together," George E. Lord, Maine Extension Service, University of Maine; "You, Your Job and Your Customer," John Linney, Merck & Co., Rahway, N.J.; "New Notes on Poultry Health," Dr. Harold Chute, University of Maine (vaccination), and Dr. Douglas Stauffer, U.S. Department of Agriculture, animal disease eradication division, University of Maine (disease-free area program), and "Future Potential for the Maine Poultry Industry," Eric Johnson, Ralston Purina Co., Needham Heights, Mass.; Frank Lipman, Lipman Poultry Co., Augusta, and G. E. (Jim) Coleman, Nichols, Inc., Brunswick.

Douglas Forms Premix Division

KANSAS CITY, MO.—The Douglas Chemical Co., Kansas City, has announced the formation of a premix feed division. W. C. McCaslin, executive vice president and general manager of Douglas, stated the expansion into the premix field is in line with the company's policy of continually keeping pace with the latest agricultural developments.

Douglas has been in the field of agricultural chemicals and grain handling equipment in the U.S. since 1916. Expansion plans for the premix feed division include coverage of the entire Midwest. Production will utilize the Douglas Desert Gold feed plant at Liberty, Mo., and the company's vitamin and mineral premix plant at Coffeyville, Kansas.

Mr. McCaslin has anounced the appointment of William W. Stepp as sales manager of the new division. Mr. Stepp formerly was sales manager of Foxbilt, Inc., Des Moines.

Other Douglas executives involved in the premix division formation include Frank Hamm, plant production manager; Jim Cole, nutritionist; Paul F. Smith, assistant general manager, and Gary Neilan, advertising manager.

Chicago Club Makes Christmas Party Plans

CHICAGO—Plans for the Chicago Feed Club Christmas party have been announced by Henry S. French, chairman of the party committee, and Lee Boyd, secretary of the club.

The party will be at the Illinois Athletic Club Monday, Dec. 11. Dinner, to be served at 7:15 p.m., will be preceded by a social hour, during which Don Allen, Broadway and night club entertainer, will perform. The Ernie McLean Singers will present a musical revue as after dinner entertainment. Bill Topper and his Tune Toppers will provide music.

Reservations should be made with Landon Hoyt, Bemis Bro. Bag Co., 110 N. Wacker Dr., Chicago. Tickets will be $15 per person and checks made payable to the Chicago Feed Club should accompany the requests for reservations which are sent to Mr. Hoyt.

Fish Meal, Solubles Production Declines

WASHINGTON — Production of fish meal and solubles during September fell off from the amount produced in the same month of 1960, but the quantity processed through September of this year is significantly greater than during the same period last year, the U.S. Department of the Interior reports.

During September, 1961, fish meal production amounted to 29,000 tons—87% from menhaden. Fish solubles and homogenized fish amounted to 11,400 tons. Compared with September, 1960, meal production was down 26% and fish solubles and homogenized fish were down 9%.

The quantity of fish meal processed during the first nine months of 1961 amounted to 248,600 tons—15,500 tons greater than the same period the previous year. Fish solubles and homogenized fish production totaled 10,500 tons—1,000 tons greater than the nine-month period in 1960.

Imports of fish meal January through August totaling 145,000 tons were 65% greater than during the same period in 1960, while imports of fish solubles were 2,200 tons—20% less than the 1960 eight-month total.

FEED STORE OWNER DIES

CROSSETT, ARK. — Ovid E. Owens, 59, Crossett, owner of a feed store, died Nov. 14. He had been a livestock farmer 30 years in the Dermott, Ark., area before moving to Crossett where he was in the feed store business.

Turkeys Tested in October Down 10%

WASHINGTON — The number of heavy breed turkeys tested during October for pullorum disease was 10% less than the number tested in the same month a year earlier, according to the U.S. Department of Agriculture.

Testings of heavy white breeds were 7% less than October, 1960—182,411, compared with 195,712. Testings of other heavy breeds (mostly broad-breasted bronze) were 12% smaller — 440,924, compared with 499,839.

During the months July through October, testings of heavy white breeds totaled 596,339—up 11% from this period in 1960. Other heavy breeds tested July through October totaled 828,586 — down 13% from these months in 1960.

Light breed turkeys tested during October totaled 21,947 — down 39% from October, 1960. Testings July through October totaled 74,072 — down 42% from comparable period in 1960. Testings of all breeds July through October, 1961, totaled 1,498,997—down 7% from the same period in 1960.

There were 3,141,426 chickens for supplying broiler hatching eggs tested during October—up 12% from October, 1960. The cumulative July through October total was 9,419,124 —up 12% from these months in 1960. Chickens tested in October for supplying eggs for egg-type chicks totaled 1,647,560—up 2% from October, 1960. Testings during the months July through October totaled 3,294,436—up 3% from these months in 1960.

Egg Set, Chick Placements Drop

SALISBURY, MD. — The national egg set and chick placements last week were slightly below the corresponding week of 1960.

Hatcherymen in 22 reporting states set 42,881,000 eggs during the week. This was 2% above the previous week, but 2% below the same week of 1960. Settings were up in 15 of the 22 states. Sizeable increases were reported in Georgia, Alabama, North Carolina, Pennsylvania and Illinois.

Chick placements in the 22 states totaled 30,145,000. This was 2% above the previous week but slightly below the corresponding week a year ago. Increases were reported for 13 states compared with the previous week. Sizeable increases were reported in Arkansas, Maryland, California, Georgia and Mississippi.

Broiler prices averaged 12.22¢ last week in Delmarva compared to 12.46¢ the week before. A year ago the price was 16.29¢.

Broiler and Turkey Prices Move Upward

NEW YORK—The price story for broilers, eggs and turkeys in this holiday-interrupted week: Broilers returned to 12¢ lb. in the South; increased receipts of large and medium eggs kept eggs unchanged or pushed them lower, and heavy out-of-storage movement advanced the wholesale turkey market ½-1¢ lb.

Southern paying prices for broilers were mostly 1¢ higher than a week earlier. The 12¢ level prevailed in all southern states but North Carolina where quotations were divided between 11 and 12¢.

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Vitamin A and Urea Research Outlined at Florida Meeting

By ROBERT H. BROWN
Special Feedstuffs Correspondent

WEST END, GRAND BAHAMA—Vitamin A deficiency in cattle under feedlot conditions has increased during the last few years, and this has brought about the revelation that under certain conditions cattle are poor converters of carotene to the important vitamin A.

Dr. W. M. Beeson of the department of animal science, Purdue University, told of vitamin A research before the Florida Nutrition Conference, held in conjunction with the annual Florida Feed Assn meeting.

At the same time, Dr. Beeson, in another address at the conference, said that as limiting factors for bacterial synthesis are unlocked, it is possible that urea can replace a majority of supplementary protein.

VITAMIN A—He outlined experiments with cattle in both addresses and on the subject of vitamins and carotene he said that any substance or metabolic process of the animal which interferes with conversion of carotene to vitamin A can result in a deficiency if carotene is the only source. Either nitrates or "some unidentified substance" contained in natural feedstuffs may be inhibiting this conversion.

Touching on the possibility that some of the nitrates now being used on soils may have a bearing, he described tests that have been made recently that show the conversion ratio of carotene to A must be reevaluated for ruminants. Stress factors such as heat, shipping and disease also have a direct influence on the A requirements of cattle.

"It has been proposed that either nitrates or some unidentified substance in natural feedstuffs is inhibiting the conversion of carotene to vitamin A. In most cases, the fortification of the diet with 10,000 to 30,000 I.U. of vitamin A daily has either prevented or cured the sub-clinical as well as clinical symptoms of vitamin A deficiency.

"Research to date indicates that 20,000 I.U. of vitamin A will meet the daily requirements for fattening steers under most feeding conditions. As a result of research and feedlot data, the conversion ratio of carotene to vitamin A must be reevaluated for ruminants," he said.

Purdue Research

Recent research at Purdue has shown the steers required a synthetic source of vitamin A if self-fed on a ration containing 1.0 mg. of carotene per lb. Seventy-two head of yearling steers that had previously wintered on a ration supplemented with 4,500 I.U. of synthetic vitamin A and 25,000 I.U. of dehydrated alfalfa meal daily were used in the study. These steers, he said, were not depleted of A when the test was started. The steers were self-fed on a basal ration composed of 88% ground ear corn, 11% soybean oil meal, 0.7% bonemeal, 0.3% salt fortified with cobalt and minerals free choice (2 bonemeal:1 salt). The basal ration contained 1.0 mg. carotene per pound. The levels of supplemental vitamin A palmitate fed per head deally were as follows: 0, 2,000, 4,000, 8,000, 16,000 and 32,000 IU's.

All levels of vitamin A resulted in improved daily gain and usually an improvement in feed efficiency. Increasing the levels of A caused an increase in the daily feed intake, and this effect was most pronounced during the extremely warm weather.

"It was quite obvious that the cattle receiving the higher levels of vitamin A suffered less from the heat. The carcasses from the cattle fed the three highest levels of supplemental A graded higher; but due to the small number of animals involved, these differences were not significant. Steers receiving the 0 and 2,000 I.U. of A exhibited symptoms of A deficiency such as incoordination of rear quarters, rough hair coat, dull eyes and anasarca.

"Night blindness occurred only in the 0 level lot. It was quite noticeable that the steers on the higher levels of vitamin A (8,000, 16,000, and 32,000) had brighter hair coats and were more vigorous and healthy. Blood plasma and liver levels increased with each increment of A fed, but the blood carotene decreased when 16,000 and 32,000 I.U. of vitamin A were fed," he said.

Later Trial

A later trial at Purdue with steer calves self-fed on a ground ear corn-soybean meal type ration without alfalfa, showed a highly significant increase in daily gain (20%) by fortifying the diet with 20,000 I.U. of A per head daily.

"Higher levels of synthetic vitamin A palmitate—30,000, 40,000 and 50,000—did not improve the performance of the steers over the 20,000 I.U. level. Daily gain was increased 30% and feed efficiency was improved 8% from supplementing with 20,000 I.U. of vitamin A," he said. The ground ear corn-soybean meal ration contained 0.93 mg. of carotene per pound.

When 10% sun-cured alfalfa pellets replaced 10% corn cob in the basal ration, vitamin A improved gain 17% and feed efficiency 6%. The ration with 10% alfalfa pellets analyzed 2.26 mg. of carotene, which is about 3.5 times the accepted requirement.

"Even on this high carotene intake, the steers with no supplemental A developed typical clinical symptoms of A deficiency such as anasarca, spreading shoulders, posterior stiffness, and night blindness. With 10% alfalfa pellets in the diet, maximum response was obtained by feeding 20,000 I.U. of synthetic vitamin A daily," he said.

In general, blood plasma levels of A increased as the level of A fed was increased from 10,000 to 50,000 I.U. daily.

A majority of studies indicate that for maximum performances, the blood plasma A levels should be 50 mcg. per 100 ml. or more.

"The carotene levels in the blood were decreased as the level of A intake was increased. This may indicate that carotene conversion to vitamin A in the intestinal mucosa is influenced by vitamin A in the diet," Dr. Beeson explained.

UREA—In his talk on urea, Dr. Beeson said the limiting factors are not the supply or the cost but merely lack of basic knowledge on the nature of protein synthesis by microbial life in the rumen and the nutrients required—both qualitative and quantitative—for maximum production.

"We must find the answers to the simple question: 'Does a ruminant have the potential to synthesize more than one-third of the protein needs from urea?' When we unlock the secrets of protein synthesis in the rumen, a majority of the supplementary protein (50-75%) can be furnished by urea," he said.

Urea is a simple non-protein organic compound which contains as a commercial preparation 42% nitrogen and is potentially equivalent to a 262% protein feed.

"However, urea alone has no protein value for livestock. Bacterial protein of good quality is formed in the rumen by bacterial synthesis and is subsequently digested by enzymes in the stomachs and intestines of the host animal. Bacterial protein is then metabolized and synthesized into body protein in the form of meat, milk and wool. Urea has no practical function in monogastric animals," he explained.

Since all of the essential nutrients, both major and minor, are not known, some of the better known critical nutrients that should be supplied in a protein supplement or complete ration containing urea include adequate level of starch feeds such as corn, milo or hominy for energy, sugars, adequate level of available phosphorus, trace minerals, dehydrated alfalfa meal (5 to 14%), avoidance of use of high fiber "filler" feeds such as screenings, oat hulls, corn cobs and a good urea supplement.

Inasmuch as urea has no energy value, it must be combined with a high energy feed, and sugars (glucose, sucrose, molasses) are inferior to starch for urea utilization. The urea supplement should contain as high quality ingredients and essential nutrients as a protein supplement made up entirely of natural proteins.

Urea, he said, is an excellent source of crude protein when fed at proper daily level to cattle, but when used excessively, it is toxic. The intake, for maximum performance, for cattle should not exceed 0.2 lb. per head daily, or not more than one third of the protein requirement.

"The daily intake is the key to the formulation of urea feeds and not the percentage. For example, you can feed up to 4.0 lb. daily of a supplement containing 5% urea but not more than 2.0 lb. of a supplement with 10% urea. Therefore, it is difficult to set down iron-clad rules for urea formulation on a per cent basis," he added.

If daily feed requirements are proper, a safe recommendation would be for a grain ration to contain 2.0% with a maximum daily feed of 10 lb., for example.

Amino Acid Additions

A new approach to determine the limitation of urea has seen the addition of amino acids (lysine and methionine) and may be part of the answer to the question of the amount of nutrients required for maximum protein synthesis in cattle, he said.

"It is well known that rumen micro-organism can make protein from urea and other non-protein nitrogen compounds to supply about one third of the daily protein needs of cattle. Bacterial protein formed by biological synthesis in the rumen is subsequently digested in the stomach and intestine of the animal. All of the ten essential amino acids necessary for growth can be synthesized

(Turn to VITAMIN A, page 95)

STORED POULTRY PEAKS AS EGG STOCKS DIP

WASHINGTON — More frozen poultry was in storage Nov. 1 than ever before, but, in contrast, shell egg holdings on that date were the lowest on record and frozen egg stocks were at their lowest Nov. 1 point since 1936.

U.S. Department of Agriculture calculations show that about 69% of the Nov. 1 frozen poultry inventory was in turkeys—373 million pounds or 91 million pounds more than a year earlier.

Shell eggs in storage dipped to 145,000 cases, slightly over half the level of Nov. 1, 1960, stocks and about a third of average. Frozen egg stocks were down to 87 million pounds, well below the Nov. 1 average of 117 million pounds.

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Florida Group Changes Name, Elects Officers

WEST END, GRAND BAHAMA—The Florida Feed Dealers Assn. in the future will be known as the Florida Feed Assn. The new name was adopted at the annual convention in Grand Bahama in order to have a name more inclusive for the various branches of the industry.

The name was adopted following the appointment of a committee to study the change at last year's session at Gainesville.

Roger Eikenberry was elected president for the 1962 term, with James Barnhardt and Robert Robinson elected first and second vice presidents, respectively. Robert Alexander was elected secretary and James Jewett, treasurer.

New directors were also elected. They are: Mr. Eikenberry, Mr. Barnhardt, Mr. Robinson, Keith Morgan, Mr. Jewett, Leonard Banks, Lawrence Howard, Eugene McCoy, Julian Smith, Bart Ahlstrom, W. L. Jackson, Russ Godwin, Mr. Alexander and Tom Lord.

A new charter and a new set of by-laws were adopted during the session to replace a charter that had been in existence since the formation of the association in 1932 when the group was incorporated as the Florida Agriculture Feed & Supply Dealers Assn. The name was changed in 1948 to the Florida Feed Dealers Assn.

ILLINOIS CONVENTION—Photos above are scenes from the joint convention of the Illinois Feed Assn. and the Illinois Poultry & Hatchery Federation held in Springfield. In the first picture, left to right, are officers of the feed association who were reelected: A. T. Myren, Springfield, treasurer; Roy F. Hewitt, Hillsboro, president, and Henry Marlowe, Huntley, vice president. Also pictured are three convention speakers, left to right, Alvin E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington; Kenneth Monfort, Monfort Feedlots, Greeley, Colo., and Paul M. Stokes, management consultant, Rogers, Slade & Hill, New York.

Heavy White Poult Hatch Up; Other Breeds Off from '60

WASHINGTON—Despite low turkey prices, the hatch of heavy white breed poults in October was still somewhat ahead of corresponding output in 1960, according to the U.S. Department of Agriculture.

However, the hatch of other heavy breeds and of light breeds was down from October, 1960, in addition to being down seasonally. The total of all poults hatched in October, at some 1.6 million, was 16% less than the total a year earlier.

USDA said that heavy white breed poult production during October was some 1.1 million—5% larger than in October last year. The hatch of other heavies, at 218,000, was off 32%, and the light breed total, at 222,000, was down 53%.

Since the first of the year, hatcheries have produced some 107.4 million poults, up 22% from the same period of 1960. The cumulative output of heavy white breeds since January was up 44%, while other heavy breeds were up 16%. Light breeds were up 8%.

The November hatch of heavy white breeds is expected to be about the same as in November last year, but the hatches of other heavies and of light breeds will be considerably smaller, based on figures on eggs in incubators Nov. 1.

Maple Leaf Mills Buys Broiler Firm

TORONTO—One of Canada's top volume feed manufacturers, Maple Leaf Mills, Ltd., has entered the broiler processing, hatchery and poultry egg production field.

Maple Leaf has purchased Sky-Line Farms, Ltd., Kettleby, Ont., 30 miles north of Toronto. Sky-Line Farms includes a hatchery and a modern processing plant with a capacity of 150,000 broilers weekly.

In addition, several thousand egg type hens are kept on the farm. The firm has its own egg grading station. Ray Marshall, president and founder of Sky-Line Farms, Ltd., will continue in that capacity.

Maple Leaf Mills is the product of the merger last spring of Maple Leaf Milling Co., Ltd., and Toronto Elevators, Ltd.

AVI Equipment Burns

DARDANELLE, ARK. — The Arkansas Valley Industries, Inc., feed mill here narrowly escaped destruction by fire Nov. 18 when a conflagration of unknown origin ruined AVI's headquarters maintenance shop.

Clyde Crouch, AVI's feed mill superintendent, reported that a new automobile, a truck chassis, a light farm tractor, considerable equipment and a large stock of truck and car tires were destroyed or completely ruined. The shop was headquarters for about 100 cars and trucks of the AVI industry.

Plant Closes

BENTONVILLE, ARK. — The Arkansas Poultry Co-op processing plant here, at which a strike by union workers has been staged since Oct. 23, was shut down this week for repairs. George Melbourn, plant manager, said a week of repairs will prepare the plant for operations.

The strike, by members of Local 403, Amalgamated Meat Packers, is said to have been the result of failure of the union and management to agree upon plant operational procedures. The processing plant has had an annual payroll amounting to approximately $500,000.

Pfizer Terramycin 'Checkstakes' Contest Offered Nationwide

NEW YORK — A nation-wide consumer sweepstakes was launched this week by the agricultural division of Chas. Pfizer & Co., Inc., with $25,000 offered as the grand top prize.

The contest, known as "Checkstakes," provides for 1,000 second prizes, each constituting a $5 gift certificate good toward the purchase of any Terramycin product. The contest is being carried in all rural areas of the country through consumer advertising in 28 state farm publications.

Local dealers handling Pfizer agricultural products will also make entry forms available.

Any resident in the U.S. may enter "Checkstakes" except those living in states where local contest laws make contests void. Employees of Pfizer and its advertising agencies are ineligible.

To enter "Checkstakes" a contestant writes his or her name after "Pay to the order of" on the face of the check carried in the Pfizer advertising announcing the contest. Together with the check, complete with name and address, the contestant includes a boxtop from any Terramycin animal health product, or a tag from any feed containing the broad spectrum antibiotic Terramycin (oxytetracycline).

In place of the boxtop or tag, the contestant may also submit a separate sheet of paper on which he has printed in block letters the brand name of Pfizer's antibiotic. All entries should be mailed to Terramycin Checkstakes, P.O. Box WW, Chicago 77, Ill.

Entries for "Checkstakes" must be postmarked not later than midnight Jan. 31. A contestant may enter as often as he likes, using the check entry form plus appropriate enclosure, for each separate mailing.

The first entry drawn in the contest will win the $25,000 top prize. The next 1,000 entries drawn will each win a $5 gift certificate toward the purchase of any Terramycin product.

Winners will be notified by mail approximately one month after the close of the Pfizer contest.

"Checkstakes" and the availability of the check entry forms in state farm papers and at local dealers will also be promoted in Pfizer radio spots in many areas of the nation.

OCTOBER PULLET PLACEMENTS DROP 24%

WASHINGTON — The number of domestic placements of pullet chicks for broiler hatchery supply flocks by leading primary breeders during October took the biggest drop of any month this year. Placements were 24% below October, 1960, and, also, were 2% below the same month of 1959, according to the U.S. Department of Agriculture.

The 26,532,000 total for the first 10 months of 1961 is still 5% more than the first 10 months of 1960, however.

October domestic placements of pullet chicks totaled 1,950,000 compared with 2,558,000 in the same month last year. Total October placements (domestic plus exports) were reported at 2,186,000 compared to 2,756,000 a year ago.

The 24% October decline from a year ago follows a 16% drop during September. July and August had increases of 12% and 8%, respectively, in comparison with last year.

The primary breeders included in this report account for a very large percentage of total supply of replacement pullets for broiler hatchery supply flocks.

Turkey Orders, Hearing Schedule Criticized

MINNEAPOLIS — The Minnesota Farm Bureau Federation this week went on record as opposed to the proposed national turkey marketing orders.

A federation resolution described the order proposals as an attempt to solve an economic problem by the political route. It condemned as contrary to Farm Bureau policy the attempt by "farm planners" to "eventually put all commodities under nationwide marketing orders."

Earlier, Charles B. Shuman, national Farm Bureau president, told the Minnesota group that USDA was "trying to ram through" a turkey control program while the industry is beset by low prices.

"The administration is taking advantage of the low price situation and quite gleefully and rapidly moving toward controls," he said. "And the speed with which they are operating in the proposed control program indicates they want to have it in force before the increase in consumption and decrease in production—which will come—make such controls unnecessary."

Mr. Shuman said the turkey order proposals represent a "foot-in-the-door approach to bring all livestock production under federal controls."

He charged that USDA was trying to avoid actual turkey growers in setting up public hearings. He cited the Des Moines hearing, being held during Thanksgiving week and over a weekend, and the Las Vegas hearing as examples of time and place which make it more difficult for growers in such important states as Minnesota and California to attend.

CHICKS

(Continued from page 1)

ture's latest hatchery report shows that egg-type chicks hatched in October totaled some 24.2 million—up a sharp 43% from a year earlier. Broiler chick output in October was down from a year ago, however. This was the first time in 1961 that output of broiler chicks showed a decline from the corresponding month of 1960.

Following up the October increase in egg-type chicks, there also will be an increase in November over 1960, according to figures on eggs in incubators.

The October increase of 43% over a year earlier follows gains of 26 and 32% in August and September, respectively. Early in 1961, there were marked increases over 1960 in the hatch of egg-type chicks. Then in the important months of May and June there were increases, but in the late hatch increases were shown again. For the first 10 months of 1961, the hatch of egg-type chicks totaled some 482.1 million—up 9% from the same period of 1960.

November Up Also

Looking at November, USDA reported that the number of eggs in incubators on Nov. 1 was 32% larger than a year earlier. Almost all regions showed increases—the percentage increases including the following: New England, 26; middle Atlantic, 22; east north central, 88; west north central, 15; south Atlantic, 16; east south central, 74; west south central, 17; Pacific, 29. The mountain states were down 4%.

In October, all regions showed increases over a year earlier, and most of the percentage increases were substantial. Some of the broiler areas were among those showing big gains.

Broiler chick output in October totaled 137.3 million—down 4% from a year earlier. The cumulative broiler chick output for the first 10 months was 1.8 billion—up 9% from 1960. The number of eggs in incubators on Nov. 1 was down 6% from the same date last year, indicating another cutback in the hatch in November.

MINNESOTA GROUP OPPOSES ORDERS

MINNEAPOLIS—Prospects for approval of turkey marketing orders probably were dimmed this week when directors of the Minnesota Turkey Growers Assn. approved a resolution opposing marketing orders for turkeys and turkey hatching eggs.

The representatives of growers in the nation's biggest turkey state said the orders, as now written, would benefit egg producers and hatcherymen rather than growers. They said the orders would force up prices of poults through competitive bidding, encourage feed firms to buy hatcheries in order to get poults for contract growers and discriminate against major producing areas.

A Minnesota delegation headed by Roy Munson, executive secretary of the association, and Stanley Schewe, president, planned to attend a Des Moines hearing late this week, but the Minnesota group's major testimony will be presented at the Chicago hearing starting Dec. 8.

Iowa Opponents Organize Group

DES MOINES — Spokesmen for some 50 members of the Iowa Turkey Federation announced plans for an organization to protest the federation's official position favoring turkey marketing orders.

In a statement released by temporary directors of the new group, the growers charged that federation directors had promoted marketing orders "without benefit of proper survey, adequate consultation or discussion with Iowa turkey growers and egg producers."

The new group is called the Independent Turkey Growers Assn. Most of the members are in northern Iowa, and they are said to produce some 2 million birds a year. Some Minnesota growers were reported to have been contacted for possible membership also.

The secretary of the Iowa federation said he thinks it is fine for growers opposed to testify at the hearings, but he said he didn't believe it was necessary to form an independent organization to do so. He said the orders had been discussed at four area meetings.

Feed Mill Burns

LANCASTER, CAL. — The Antelope Valley Cattle & Milling Co. burned Nov. 17. Lost was the entire feed mill, including pellet mill, grinder and mixers. With some 12,000 cattle on feed, the firm will get its feed from neighboring mills until the damage can be repaired.

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Trial Pending for Feed Suit Filed In Texas Court

DALLAS—Trial is pending here in a court case involving a Ralston Purina Co. claim of more than half a million dollars in unpaid broiler feed bills and a counter-claim by the defendant, Western Hatcheries' president, asking for dismissal of Purina's complaints, compensatory damages of $1½ million and triple damages of $4½ million for alleged violation of anti-trust laws.

This report comes from the Dallas Morning News which says the case "has caused a lot of talk in Texas poultry circles the past year."

Pre-trial hearings were held recently in a U.S. district court here, but, as yet, no date has been set for the actual trial, the newspaper reported Nov. 19.

Suit Filed Year Ago

Purina, which filed its original suit in December, 1960, is asking the court to direct Joseph Fechtel, president of Western Hatcheries, Dallas, to pay $578,081.59 claimed due on poultry feed.

Mr. Fechtel, who filed his answer to Purina's amended complaint Sept. 5, 1961, alleges that Purina was negligent in formulating and mixing feeds delivered to Western's feeding operations at Hope, Ark.; Center, Texas; Ruston, La., and Terrell, Texas.

Mr. Fechtel has told the court that he is not obligated to pay for the feed because, according to him, it violated feed control regulations and did not meet representations and warranties made by Purina.

Purina has denied Mr. Fechtel's claims.

Judge Sarah T. Hughes denied Purina full protection of its poultry feed processing secrets, but did rule that Purina's feed formulations and processes would be divulged only to designated persons connected with the suit and that the feed formulas would not become a part of the trial's public record.

Mr. Fechtel has claimed that Purina induced him to enter commercial broiler growing in November, 1957. He also has alleged that Purina agreed to maintain a contribution of $1 million in feed in his business and that the feed manufacturing firm does not have the right to withdraw from the agreement.

Other Charges

Mr. Fechtel's answer states that payment for feed was to come only from profits derived by the sale of poultry grown by him on Purina feed. He further states that no profits have been realized.

The Dallas Morning News reported that Mr. Fechtel has also charged Purina with misusing confidential information, interfering with contract growers and with defamation and slander.

In addition, the defendant alleges that Purina has created a monopoly in violation of anti-trust laws by hatching and growing broilers.

Management Topic at Cincinnati Feed Club

CINCINNATI—"Management Demands in 1963," was the topic of Prof. Kenneth Wilson, dean of the College of Business Administration, University of Cincinnati, when he spoke to members of the Cincinnati Feed Club Nov. 13.

He said that management should have a goal of meeting consumer demands which have changed rapidly since 1950. He urged management to work with employees as a team, to help individuals to develop ideals and to create an atmosphere wherein salesmen can contribute constructive ideas.

Eugene Spitzer Named Murphy Vice President

BURLINGTON, WIS.—Eugene H. Spitzer has been appointed vice president in charge of technical services for Murphy Products Co., it was announced by the Murphy board of directors.

Mr. Spitzer, who joined the Burlington livestock concentrate feed firm in 1950, will be responsible for product development, product control, research, production and research in technical sales development.

Mr. Spitzer's applied feed research work at the Murphy research farm has uncovered several products introduced as feed industry "firsts" by the company, officials said in announcing the promotion. These include the phenothiazine carrying W-R-Min Mineral Feed for cattle, Baby Pig Minerals, Spuron and, more recently, High Vitamin A Beef Concentrate.

Mr. Spitzer is a graduate of the University of Wisconsin where he majored in biochemistry and specialized in animal nutrition. Following graduation he worked as a nutrition research assistant and pursued graduate study at the University of Wisconsin.

He has worked on the research staff of Armour and Co., Chicago, and on the research staff of the Western Condensing Co., Appleton, Wis. He is an active member of the American Feed Manufacturers Assn. Nutrition Council and is actively affiliated with the Dairy Science Assn., Poultry Science Assn. and the American Society of Animal Production.

REPLACE FEED STORE

DAYTON, WASH.—Construction is underway at the site of Dayton Feed Store here on a new steel building to replace the frame structure destroyed by fire last August. The building will be 40 x 100 ft. A 40 x 40 ft. section will be used for sales floor and office. The remainder will house feeds, supplies and a new roller mill.

'STATESMANSHIP'

(Continued from page 1)

titled "What Does the Future Hold for Grain Men?" were among the features of the program built around the theme "Creating a Better Image." National, regional and state level officials of the U.S. Department of Agriculture were on the firing line for the free-wheeling discussion session.

Among questions answered for some of over 1,000 persons attending the convention were: How much corn will the government sell? What will the price of this corn be? Are government programs encouraging on-farm storage construction going to aggravate the problem of an excess of storage space?

Policies Outlined

Returning to the remarks made by Mr. Oliver, he said that persons in the feed and grain industries must tell their stories to their representatives in Congress. He outlined the policies of the Grain & Feed Dealers National Assn. during the past year and spoke of the importance of adhering closely to GFDNA's resolutions. The growth of government's role in the grain trade during the past 10 years has been tremendous, he said, and the trade has been caught in the middle, facing tremendous challenges. He charged that Commodity Credit Corp. sales set the market price, and rumors of its sales influence the market.

The association executive highlighted changes in grain storage patterns and requirements and the "alarming effect" on warehousemen in some areas. "Indications are that we must be prepared for even greater adjustments in the months and years ahead," he commented. He pointed out that USDA, with the support of Congress, is committed to reduction of grain inventories.

Mr. Oliver charged that government action has been for the benefit of farmers with little consideration for those who market the farmer's product.

Pointing out industry's contribution to the needs of agriculture, he cited the present 10,000 warehouses with a capacity of 4,730,000,000 bu. under the Uniform Grain Storage Agreement and compared this with 10 years ago when about one-fourth this capacity was available for storage of farm crops.

He warned the group not to underestimate the importance of farm storage and the guaranteed farm storage income policy.

Marketing Orders

In another area of government relationship to the feed and grain industries, he explained the plans for turkey marketing orders and questioned the effect they might have on the competitive system. He said marketing orders usually bring tighter and tighter control over production. He indicated that present regional and local marketing orders could not be compared to the national marketing orders proposed.

He said the U.S. Department of Agriculture's supply-management techniques have been called "social engineering."

The GFDNA official recalled the highlights of the USDA announcement to offer price support on 1961 crop soybeans through warehouse-storage loans and purchase agreements to cooperative soybean marketing associations. He said the decision discriminated against one segment of the industry and for this reason was opposed by the association.

Panel Discussions

For the panel discussion, moderator was Dean Daniels, vice president of McMaster Grain Co., Sioux City. Panelists were: Roland F. Ballou, assistant deputy administrator, Commodity Operations, Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture, Washington; Joseph Haspray, director, Commodity Stabilization Service, USDA, Evanston, Ill., and Harold Brightwell, program specialist, Iowa ASCA office, Des Moines.

When asked how much corn the government will sell, Mr. Haspray told the feed and grain men that $726 million in corn and grain sorghum must be sold to pay on the cost of the feed grain program.

In regard to the price of this corn, he said that no minimum floor price has been established. However, he indicated that last year's prices to the farmer will be a guide.

Asked if government encouragement of on-farm storage construction would aggravate the surplus of storage space, Mr. Brightwell said that the government loan program for such space with guaranteed storage income for two years was drawn up before the storage surplus situation appeared. He also indicated that much of the storage being constructed is to replace outmoded existing on-farm facilities.

Speaking on the agriculture problems, Mr. Ballou commented that modern day international society "brings about problems over which our own government has no control."

He told the convention that there is nothing to indicate that the government will not be in the grain business for some time to come, and he said it looks as though Commodity Credit Corp. will merchandise double the 300 million bushels sold last year.

He pointed out that currently there is somewhat less grain going under support than for a year earlier.

Inefficiency Charged

Referring to charges of inefficiency brought about by controls, Mr. Ballou said that it seemed to him that producing more grain than can be used in this country and abroad is also inefficient.

To reassure the feed men in the group, he said that the government is obligated under the feed grain bill not to let feed inputs get far out of line in price.

He concluded by saying that because government agricultural programs are producer oriented it should not be concluded that they are "anti-trade."

Mr. Haspray commented that there is going to be a material shortage of free corn during the year and added, "We expected to be a big and active seller of corn throughout the year." Currently, he explained, loading orders are being used as a means of encouraging sales. He said that if the warehouseman purchases this grain, it is credited against the loading orders for his warehouse.

Mr. Haspray stated that the government prefers to sell the corn at the local level to avoid the paper work and costs of moving it to terminals.

He pointed out that there is no bushel quota limit on purchases of the government corn.

The government agriculture spokesmen assured their interested audience that grain will be moved from both UGSA warehouses and government bin sites, so private facilities will not be empty until soybean take-over time next year.

Mr. Ballou told the grain men that their business may change to a basis where the profit is made from merchandising rather than from warehousing.

Officers Elected

Officers elected during the convention include: Glenn Swartzendruber, Wieston Grain Co., Manson, Iowa, president; Adrian M. Neil, Adrian M. Neil Co., Tama, Iowa, vice president; Keith Cummings, Specifide, Inc., Des Moines, treasurer; Bob Skinner, Des Moines, executive vice president, and Ken Ludlow, Des Moines, executive director. Other members of the board of directors include: Jerry O'Dowd, Mid-States Grain Co., Ft. Dodge, Iowa; Carmon Johnson, Johnson Feed & Grain, Brooklyn, Iowa; Gaige Walters, Squealer Feed Co., Harlan, Iowa; Joe Spore, Davenport Elevator Co., Davenport, and Merrill Shaw, New Hartford Elevator, New Hartford, Iowa.

HOW SOON?

(Continued from page 1)

might expect a restoration of turkey prices to 1960 levels, he says.

Mr. Karpoff says an adequate supply shrinkage cannot develop before about August of next year. To achieve prices of the level of 1960, production ought to move back down to the 1960 level, he indicated. That year, about 85 million birds were raised contrasted with 107 million in 1961. Such a production cut is not likely to occur in Mr. Karpoff's judgment.

Left alone, the 1962 turkey crop is likely to be a large one, although possibly not fully up to the 1961 record, he said. For prices to go up depends upon a shrinkage in supply, he stated.

Turning to broilers, the USDA specialist noted that hatching egg settings in late October and early November were below a year ago by 4-6%, but added that this will not bring January slaughter down to a point sufficient to create a noticeable supply pinch.

For the more distant future, recent sales of breeder pullet chicks have been at a level that would provide an ample supply of hatching eggs from a breeder flock which through February could actually be larger than the flock of the preceding year, he says.

Mr. Karpoff expects attrition in broiler production to come slowly because many firms have access both to good financial reserves built up in the profitable year of 1960 and long lines of credit from suppliers.

Meanwhile, whether it be turkeys or broilers, the consumer is supplied with low priced poultry.

4 GRAMS!

that's the amount of zinc bacitracin (Baciferm) per ton of feed that increases broiler profits $6 to $22 per 1000 birds.

That's all. 4 grams. And broiler profits can increase $6.55 per 1000 birds to $22.58 per 1000 birds. That's what Baciferm zinc bacitracin antibiotic supplements do for you.

The proof? We have just completed calculations on the results of *six* recent tests conducted in different parts of the country involving over 14,000 birds! The summary below highlights the pertinent facts and figures. See for yourself why Baciferm makes such good business sense (and dollars) in *your* broiler feeds. These results confirm the data from scores of tests run during the past several years.

	NUMBER OF BIRDS	EXTRA PROFIT PER THOUSAND BIRDS OVER CONTROL (4 GRAMS ZINC BACITRACIN PER TON)
CSC TEST #23	524	$15.34
COLLEGE TEST #58	964	$13.95
COLLEGE TEST #60	300	$ 9.50
FEED MANUFACTURER'S TEST #78	12,000	$ 6.55
COLLEGE TEST #82	600	$21.85
COLLEGE TEST #83	150	$22.58

BASIS: market price of broilers 16¢ per lb.; feed cost 4½¢ per lb.; zinc bacitracin 7¢ per gram.

Doesn't it look like Baciferm is the buy for you? Baciferm's the buy for more and more feed manufacturers for both low and high level use. It's the economical antibiotic supplement for poultry and swine feeds. It contains the selectively-active antibiotic *zinc* bacitracin made exclusively by CSC under Patent No. 2,809,892. Baciferm's selective action kills dangerous bacteria fast but lets beneficial bacteria go right on producing vitamins and other valuable growth factors. College tests show that Baciferm gives full value in stimulating growth and reducing mortality. And – *zinc* bacitracin has the antibiotic stability manufacturers require.

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WEST VIRGINIA OFFICERS—New officers and directors of the West Virginia Feed Dealers' Assn. were elected at the recent convention in Davis. Directors are, standing, left to right, Ernest Bond, agriculture division, American Cyanamid, Jane Lew; Fred Roland, Roland Feeds, Bluefield; Charles Halterman, Shawnee Milling Co., Petersburg, and A. Houston Booth, Southern States Cooperative, Clarksburg. Officers seated, left to right, are Mrs. Rheba Dolan, State Department of Agriculture, Charleston, secretary-treasurer; E. H. (Ed) Nelson, John W. Eshelman & Sons, Bridgeport, president, and W. E. Gayle, Gwinn Milling Co., Huntington, second vice president. Not in the picture is M. J. Foster, Foster Feed Co., Weston, first vice president.

Officers Elected by Feed Dealers Group In West Virginia

DAVIS, W.VA.—E. H. (Ed) Nelson, Bridgeport, was elected president of the West Virginia Feed Dealers' Assn. at the two-day annual convention here. Mr. Nelson is territory sales manager for John W. Eshelman & Sons.

Other officers elected were: M. J. Foster, Foster Feed Co., Weston, first vice president; W. E. Gayle, Gwinn Milling Co., second vice president, and Mrs. Rheba Dolan, West Virginia Department of Agriculture, secretary-treasurer.

New directors elected for 1962-63 were: Charles Halterman, Shawnee Milling Co., Petersburg; Ernest Bond, American Cyanamid Co., Jane Lew; Fred Roland, Roland Feeds, Bluefield, and A. Houston Booth, Southern States Cooperative, Clarksburg.

Mr. Nelson outlined a seven-point program of action for the group:

Coordinate the efforts of the association and the State Department of Agriculture toward completion of a workable uniform feed law with considerations for all segments of the feed industry.

Paul E. Mullinix **Robert E. Miller**

Work for the complete cooperation of the association with the West Virginia University college of agriculture and the university extension service. A study will be made of the possibility of an association sponsored scholarship fund for the college of agriculture.

Keep present membership informed on matters pertaining to the association as well as information pertinent to the operation of their feed enterprises.

Instigate a membership drive to strengthen the association.

Assist in industry procurement, proper legislation and good publicity for the state.

Study the possibilities of more marketing services to be offered producers of products resulting from the use of food products and services.

Keep abreast of federal government controls on products relative to the industry, and be in a position to recommend or oppose controls that tend to affect the feed industry.

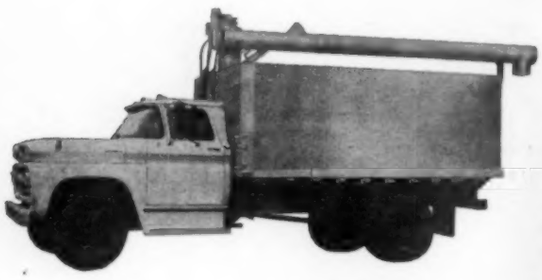
Mr. Nelson told the membership, "We must look forward to 1962 with the object of rendering better service, the elimination of uneconomical and wasteful methods of distribution and placing the feed, fertilizer and seed industry on a sounder basis in West Virginia."

More than 150 feed dealers and industry representatives attended the convention. At a banquet, J. T. Johnson, commissioner of agriculture, reported. He was followed by the principal address by Paul E. Mullinix, director for community service, Southern States Cooperative, Richmond, Va., who called for a more unified feed organization.

On the program were Robert E. Miller, director of marketing for Beacon Milling Co., Cayuga, N.Y., who spoke on "What Is Our Future as Retail Feed Dealers?" J. B. Lauber, general manager of Wirthmore Mills, Toledo, Ohio, spoke on credit at the dealer level.

J. B. Lauber

H. T. Reger, operating loan officer, Farm Home Administration, Morgantown, discussed rural development and how FHA can work with feed dealers. Dr. G. C. Anderson, West Virginia University, Morgantown, spoke and showed slides on what is new at the school.



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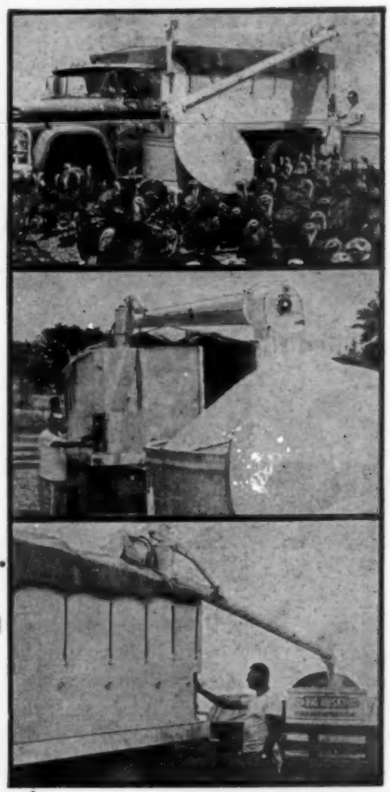

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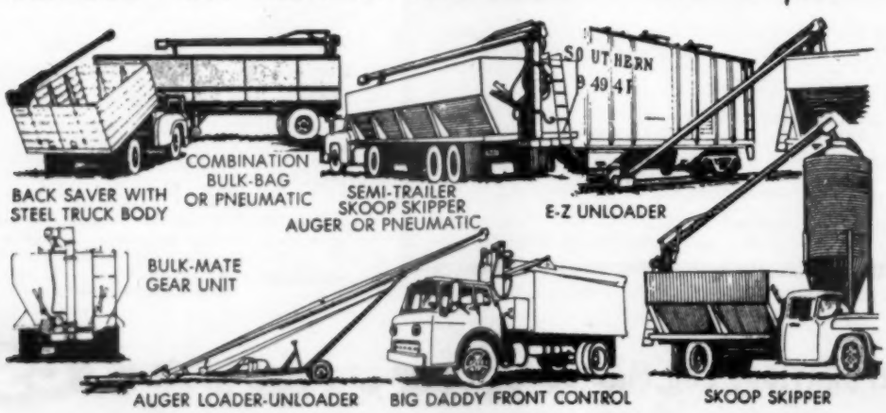

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3-POINT PRIDE PLAN FOR 'PORK INDUSTRY'

ST. LOUIS—Bernard Ebbing, Rath Packing Co., Waterloo, Iowa, has put forth a three point plan to instill pride in the swine industry. Mr. Ebbing termed industry pride a "pressing need" when he spoke at the National Swine Industry Conference here.

He proposes:

To build a common bond, esprit de corps, "pork industry" be accepted as a new name for the swine industry.

Greater recognition be given achievements and problems throughout the industry.

A better selling job should be done all the way from the producer through the rest of the industry to improve the sales position with the consumer.

"I believe producers should have an air of pride that they are associated with this great industry instead of saying: 'I'm just a hog farmer,'" Mr. Ebbing declared.

Hog of the Future Not as Far Away As Was Expected

ST. LOUIS—A meatier pig can be produced sooner than had been expected three years ago, Dr. J. C. Hillier, Oklahoma State University, Stillwater, indicated in a speech to the National Swine Industry Conference here.

Dr. Hillier, as a speaker at the swine conference in 1958, drew a word picture of the hog of the future. He commented on progress in developing such a hog in the speech at this year's conference.

"At that time (1958) I thought I was plenty optimistic in believing that such a hog could be produced in numbers in 20-30 years," he said.

He now believes "these goals can be reached even sooner if the entire industry works at it diligently." This is expecting an improvement in the lean cut yield as a percentage of the live weight of nearly 10%.

The butcher hog of the future which Dr. Hillier envisioned in 1958 "would be slaughtered at a weight of less than 200 lb., would have less than an inch of backfat and would yield above 45% of its live weight in lean cuts."

Foundation breeders are well on their way to this meatier pig, he asserted in this year's speech. "I believe they are now retaining animals in their herds that will yield a good 4-5% more in lean cuts than was found in such animals in the 1954-55 period. I also believe that in markets where an effort has been made to buy hogs on their merit, present day runs of hogs will yield at least 2% more of their live weight in lean cuts than would have been obtained 5-6 years ago."

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6% Fewer Sheep, Lambs on Feed Than Year Ago

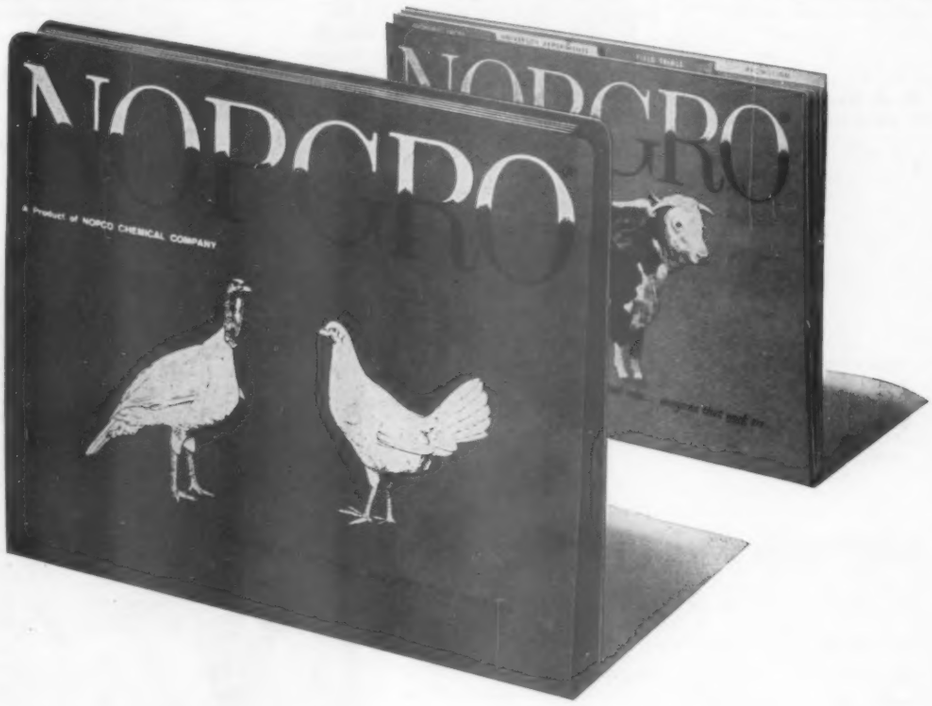
WASHINGTON—Sheep and lambs on feed for market in seven major feeding states totaled 2,431,000 head Nov. 1, 6% less than the 2,590,000 head on the same date a year ago, according to the U.S. Department of Agriculture.

The number decreased in three of the states—Nebraska, 18%; Iowa, 17%, and Colorado, 12%. Showing increases were: Kansas, 19%; California, 9%; Texas, 5%, and South Dakota, 2%. Of the total on feed, 87% were placed on feed during September and October compared with 88% during these months a year earlier. This year 13% were placed on feed before Sept. 1, compared with 12% last year.

A breakdown by weight indicates a smaller number in each weight group Nov. 1, 1961, as compared with a year earlier.

The number weighing less than 60 lb. totaled 136,000 head compared with 139,000 a year earlier. Those weighing 60-79 lb. totaled 1,299,000, down 8% from the 1,411,000 in this group in 1960. A total of 897,000 head weighed 80-99 lb.—down 4% from the 934,000 head of last Nov. 1. There were 99,000 head weighing 100 lb. or more, down 7% from the 106,000 in this group a year earlier.

PLANNING SESSION—The planning committee for the Midwest Feed Manufacturers Assn. annual convention met recently at Texas A&M College. The convention will be Jan. 28-30, 1962, at the Shamrock Hilton Hotel, Houston. Committee members, left to right, are Wiley Akins; Charles Harris; J. Paul Smith; Dr. J. Russell Couch; Bill Archer, chairman; Larry Alley, president, MFMA; Harry Konen, and Dick Taylor.



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Duration	54 days
Number of birds	838 (also 838 controls)
Diet	high energy (primary source was milo)
Extra profit per 1000 birds per day	$7.38
Extra profit per ton of feed	$20.63

2 Commercial Layers (S.C.W.L. Hyline)

Duration	77 days
Number of birds	2601 (2594 controls)
Diet	high energy mash (60% yellow corn meal)
Extra profit per 1000 birds per day	$1.46
Extra profit per ton of feed	$10.48

Rate of production and feed conversion were high in control group. Nevertheless the Nopgro-fed group showed a substantial gain over the control group. A definite improvement in droppings condition was noted in enzyme-treated birds.

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Long Winter Could Bring Feed Shortage

WASHINGTON—The U.S. Department of Agriculture points out that there is a possibility of a long, severe winter causing a shortage of feed supplies in some areas of the 17 western range states.

USDA says the current supply of winter roughage in the Western region will be the shortest per animal unit since the fall and winter of 1956-57. This includes range and pasture grasses, crop residue, fall seeded small grains and harvested forage.

With normal winter weather, the available supply of rough feed is expected to be adequate for all areas except the Northern Plains, USDA states. However, there is a fairly tight balance in most sections between planned livestock carryover and available feed supplies. This balance could be upset by a long, severe winter. The only extensive area in the West where feed supplies are really plentiful is the Central and Southern Plains where there is a significant surplus of almost every type of winter forage. Even here, some of the expected abundance has not lived up to earlier expectations. The past month of generally dry weather has dropped grazing conditions more than usual, and has taken some of the bloom off wheat pastures.

Wintering costs are going to be relatively high in many parts of the West with farm and ranch operators caught in an income vs. expense squeeze that could become critical for marginal operators, USDA pointed out.

Fall marketing of range livestock has continued to run early, and many areas have now reached the clean-up stage. On a regional basis, 70% of the expected marketings of range cattle and calves and 80% of the range sheep and lambs had been sold or contracted out of first hands by Nov. 1.

Current prospects for winter grazing in the West are about the same as last year and a little above average. Compared to 1960, conditions are somewhat worse in the Northern Plains, slightly better in the Central and Southern Plains, much better in the Inter-Mountain area and well below a year ago in the Pacific Coast states. There were significant winter feed shortages in Montana and the Dakotas, but the required adjustments are practically completed. The drouth continues in the West Coast states with fall grazing conditions the poorest for several years.

Eriez Acquires New Jersey Company

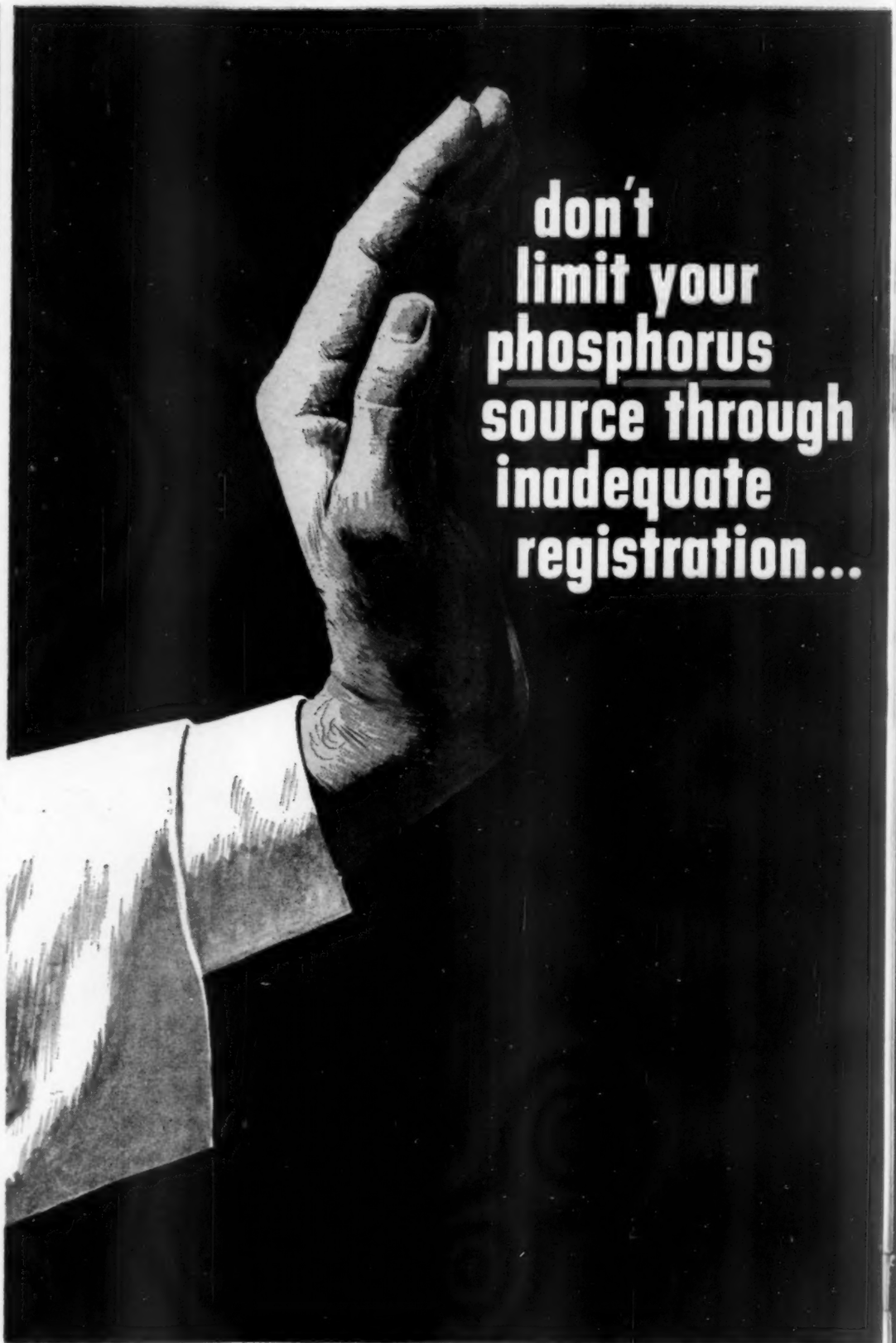
CLIFTON, N.J. — Eriez Mfg. Co., Erie, Pa., has acquired Magnetic Engineering & Manufacturing Co., (Memco), Clifton, N.J. The expansion makes Eriez the world's largest producer of magnetic equipment for the processing industry, officials said.

Robert E. Merwin, Eriez president, said all Memco present operations will continue and the new division will produce electromagnetic products as an addition to the Eriez line. All Memco personnel will be retained, and James Ferris, former Memco president, will continue as president of the Memco division of Eriez, Mr. Merwin said.

Eriez products are used to remove unwanted iron contamination from flowing materials, to improve automated conveying and to provide precise controlled movement of bulk materials by vibratory feeders and bin vibrators.

For 20 years Eriez products have served the food, feed grain and other industries, while Memco products have been used extensively in mining and other industries.

The expansion gives Eriez a total of six manufacturing plants—three in Erie and one each in Toronto, Canada; Clifton, N.J., and Sao Paulo, Brazil.



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Programs Announced For APHF Quickies

KANSAS CITY—A clinic on marketing orders will be one of the features of each of the three "quickie" conventions planned by the American Poultry & Hatchery Federation.

APHF headquarters here has announced the following dates and locations for the two-day "quickie" regional conventions: APHF Western "Quickie," Dec. 1-2, Flamingo Hotel, Las Vegas, Nev.; APHF Midwestern "Quickie," Dec. 6-7, Hotel Continental, Kansas City, and APHF Northeastern Poultry Producers Council "Quickie," Dec. 8-9, Hotel Henry Hudson, New York City.

The marketing order clinic of the western convention will be presented the afternoon of Dec. 1. It will include the following topics and speakers: "Farm Programs Through the Years," Dr. Linley Juers, staff advisor, agricultural economics, U.S. Department of Agriculture, Washington; "Procedures for Implementing Marketing Orders," Dr. James Ralph, assistant secretary, U.S. Department of Agriculture, and "The Turkey Marketing Orders," Dr. Ralph. A panel discussion on marketing orders will be moderated by Don Turnbull, executive secretary of APHF. Panelists will include Dr. Ralph, Dr. Juers and Arther Shultis, poultry extension economist, Giannini Foundation, Berkeley, Cal. Another feature of this program will be a talk entitled "Fowl Dilemma," given by Dr. C. D. Carpenter, consultant.

At the midwestern convention, the marketing order clinic is slated for the afternoon of Dec. 7. Topics and speakers are: "Farm Programs Through the Years," Dr. Jerry West, assistant professor of agricultural economics, University of Missouri; "Procedures for Implementing Marketing Orders," Dr. James Ralph, and "The Turkey Marketing Orders," Dr. Ralph. A panel discussion on the subject of marketing orders will be moderated by Don Turnbull, executive secretary, APHF, with Dr. Ralph and Dr. West as panel members. Speaking on the "Fowl Dilemma" at this meeting will be Howard A. Stamper, F. M. Stamper Co., St. Louis.

At the northeastern convention, marketing order clinic will begin the morning of Dec. 9. Speakers and their topics will include: "Supply Management Through the Years," Dr. W. E. McDaniels, chairman, department of agricultural economics, University of Delaware; "Procedures for Implementing Marketing Orders," Dr. James Ralph, and "Turkey Marketing Orders," Dr. Linley Juers, staff advisor, agricultural economics, U.S. Department of Agriculture, Washington. Moderator for the panel discussion will be Richard Ammon, executive secretary of NEPPCO, and panelists will include Dr. Ralph, Dr. Juers, Dr. McDaniels and Ray Firestone, president of APHF.

Discussions of selling, testing and the poultry outlook will also be part of the conventions.

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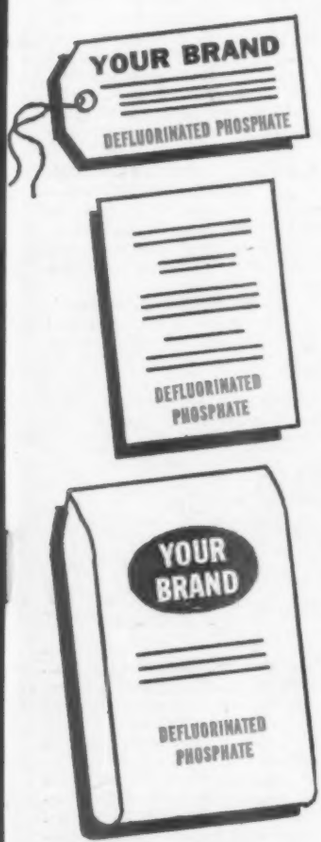

The AAFCO definition states: "Defluorinated phosphate includes either calcined, fused, or precipitated calcium phosphate. It shall contain not more than one part of fluorine (F) to 100 parts of phosphorus (P). The minimum percentage of calcium (Ca) and phosphorus (P) and the maximum percentage of fluorine (F) shall be stated on the label. The term 'Defluorinated' shall not be used as a part of the name of any product containing more than one part of fluorine (F) to 100 parts of phosphorus (P)." (Adopted 1952)

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Restricted Feeding Among Cornell Conference Subjects

BUFFALO—Restricted feeding of a complete grower mash or of energy alone in the rearing of replacement pullets may be more detrimental than if a standard feeding practice were used, according to a Cornell University scientist.

Restricted feeding of replacement birds was among the subjects discussed at the annual Cornell Nutrition Conference in Buffalo.

Among other points brought out at the Cornell conference was a finding that a certain extraction procedure may be used by scientists in screening soybean processing techniques.

Summaries of some of the Cornell papers on poultry and swine nutrition follow:

THE NUTRITION AND FEEDING OF REPLACEMENT PULLETS—Dr. R. J. Young of Cornell discussed the results of three years of Cornell experiments where either energy restriction alone or the effects of reduced protein intake have been evaluated by measuring the subsequent egg production of the hens over a production year.

Dr. Young concluded: "The results of these experiments show that the most consistent improvement from restricted feeding is the decrease in number of small eggs laid. There appears to be no assurance that total egg production will be increased each year. In addition, the restricted fed birds overconsume the laying ration when they are first transferred from the rearing program and in so doing almost cancel the saving in feed which occurred in the rearing period.

"These factors, coupled with the possibility of higher mortality during the rearing period, particularly when a mild disease outbreak occurs, make it appear that the use of a restricted feeding of a complete grower mash or of energy alone in the rearing of pullets may be more detrimental than if a standard feeding practice were used."

RECENT STUDIES ON FACTORS AFFECTING THE NUTRITIVE VALUE OF SOYBEAN PRODUCTS—Dr. M. C. Nesheim of Cornell summarized studies dealing with energy values of various soybean products as affected by processing and recent studies on the effect of raw soybeans on fat digestion in the young chick.

The presentation included figures on metabolizable energy values of soybean products as affected by processing. Calories of metabolizable energy per pound (air-dry basis) for various products and treatments were given as follows: Raw soybean oil meal (50% protein), 630; heated soybean oil meal (50% protein), 1,150; raw ground soybeans, 1,130; heated ground soybeans, 1,300; heated ground soybeans pelleted, 1,400; heated ground soybeans pelleted in entire diet, 1,520; heated ground dehulled soybeans, 1,400; heated flaked dehulled soybeans, 1,600.

Dr. Nesheim also told of an extraction procedure which should be useful in screening techniques, and their effects on soybean oil digestibility.

In the soybean studies at Cornell, the effect of processing on utilization of oil in soybeans has been estimated by determining fat digestibility in young chicks fed the soybean products that have undergone various processing treatments. This is a time-consuming procedure and involves considerable laboratory analysis.

However, the problem of estimating whether a processing treatment improves soybean oil digestibility may be simplified by an in vitro extraction procedure developed at Cornell which apparently provides a good estimate of biological availability of soybean oil in soybean products. This procedure involves determining the rate of extraction of oil from soybean products by petroleum ether in a Goldfisch continuous fat extraction apparatus. It was found that the fat from soybean products such as flaked soybeans or soybeans which had been pelleted in an entire diet was rapidly extracted by petroleum ether in a Goldfisch apparatus, whereas soybean oil from ground soybeans was extracted at a considerably slower rate. A correlation of 0.88 was found with the percentage of total oil in the ground soybean recovered after one hour extraction and determined oil digestibility in the product.

Dr. Nesheim mentioned that extraction and fat absorbability with an expanded product were reasonably good.

MINERAL INTERRELATIONSHIPS IN POULTRY NUTRITION—Dr. R. M. Leach, Jr., reviewed recent information on several different minerals. And he pointed out that from the review, it is apparent that important interrelationships exist among the mineral elements. Furthermore, interactions between minerals and other dietary constituents warrant consideration of nutritionists.

MINERAL INTERRELATIONSHIPS IN SWINE NUTRITION—An extensive review of information on several minerals and relationships among some of these was presented by Dr. D. E. Ullrey of Michigan State University.

He noted that many gaps in knowledge of interrelationships exist and that many principles which are accepted as "facts" may not be facts at all.

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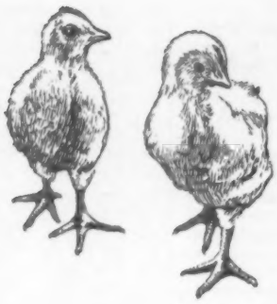

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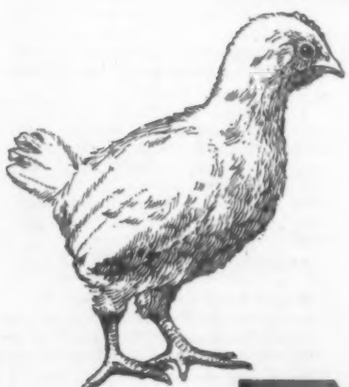

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CENTENNIAL NUTRITION CONFERENCE—Nearly 400 persons representing industry and educational institutions assembled at the Muehlebach Hotel in Kansas City Oct. 23-25 to attend the Centennial Nutrition Conference sponsored by the Midwest Feed Manufacturers Assn. in cooperation with land-grant colleges and universities in the association's eight-state area.

NUTRITION—The tendency for earlier weaning of pigs has been accompanied by accelerated research on the nutritional requirements of the young pig. Dr. W. G. Pond of Cornell reported on work with young pigs, from newborn to 10 weeks of age, which was designed (1) to study the effects of proteolytic enzyme and methionine supplementation to soybean protein diets on growth and nitrogen utilization and (2) to compare the gastric pH response and rate of passage of food residues through the GI tract in pigs fed isolated soybean protein or casein.

In summarizing the report, Dr. Pond said:

Growth, protein digestibility and N-retention studies conducted with young pigs fed purified diets containing isolated soybean protein failed to demonstrate a beneficial effect from supplemental pepsin or trypsin or both on any of the criteria. Casein was superior to isolated soybean protein in terms of growth rate, protein digestibility and N-retention in pigs 1 to 4 weeks of age. The percent retention of absorbed N in pigs fed the isolated soybean protein basal diet was 58.0% as compared to 64.5% in those fed the basal diet plus supplemental methionine and 80.4% in those fed casein.

The apparent protein digestibility of 10-week-old pigs fed isolated soybean protein diets was approximately equal to that of pigs fed casein diets, in contrast to the results obtained with younger pigs.

The in vivo pH of stomach contents of 4-week-old pigs dropped to the pre-feeding level within two hours after feeding the casein diet, whereas that of similar pigs fed the isolated soybean protein diet required four hours to reach the pre-feeding level. This difference did not exist in the same pigs at 8 weeks of age. The fasting in vivo pH of stomach contents of 8-week-old pigs just before slaughter was lower than that of stomach contents collected just after slaughter.

The rate of passage of the residues of the isolated soybean protein through the GI tract was much faster than those of the casein diet in 4-week-old pigs, but no difference existed at 10 weeks of age.

Daffin Names General Manager of Division

LANCASTER, PA.—David M. Mojonnier, Cedar Rapids, Iowa, has been named general manager of Daffin Manufacturing division of Daffin Corp., Lancaster, Pa., according to Irl A. Daffin, chairman of the board.

David M. Mojonnier

Daffin Corp. headquarters is in Hopkins, Minn. The Daffin division in Lancaster manufactures mobile feed processing equipment — Feedmobiles, Pelletmobiles and Rollermobiles—and bulk feed truck pneumatic unloaders.

A native of Oak Park, Ill., Mr. Mojonnier is a graduate of the University of Illinois with a degree in business administration. He was formerly vice president of Cherry Burrell Corp., Cedar Rapids, and had been treasurer of Mojonnier Bros., Chicago. Both firms are manufacturers of dairy processing equipment.

Cattle on Feed Count Up in Western States

SACRAMENTO, CAL.—A 9% increase in cattle in feedlots was recorded for California from Oct. 1 to Nov. 1, the U.S. Department of Agriculture reports. October gains were much larger for Arizona and Colorado: 35% and 27%, respectively.

The Nov. 1 count of feedlot cattle in California was 824,000 head, 5% above the level of a year earlier and the largest number on record. This high inventory was partly due to a packer strike in the Los Angeles area and an increase in the number of cattle placed on feed.

Marketings of fed cattle during October totaled 135,000 head in California, compared with 155,000 head marketed during September and 152,000 in October, 1960. Cattle placed on feed during October totaled 205,000, up about 19% from the 173,000 head placed in September.

Arizona feedlots had 273,000 cattle and calves on feed Nov. 1. This was 72,000 head more than the number on feed a month earlier.

Feedlots in Colorado had 409,000 head on feed Nov. 1, compared with 321,000 Oct. 1.

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Riverside, California

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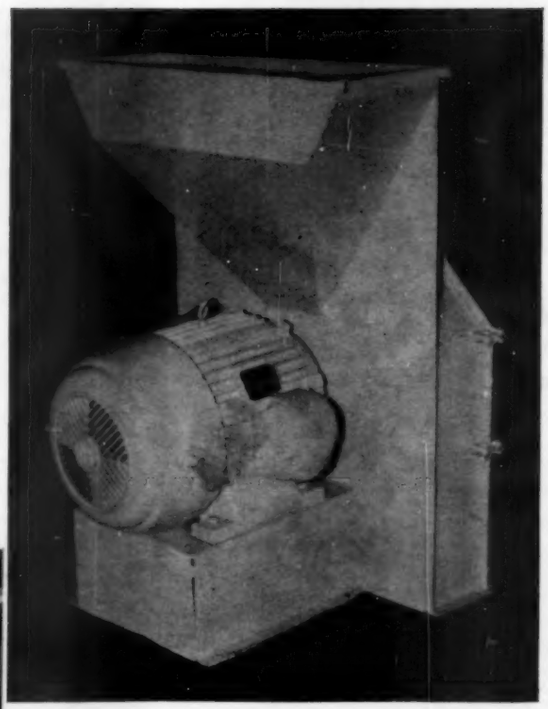

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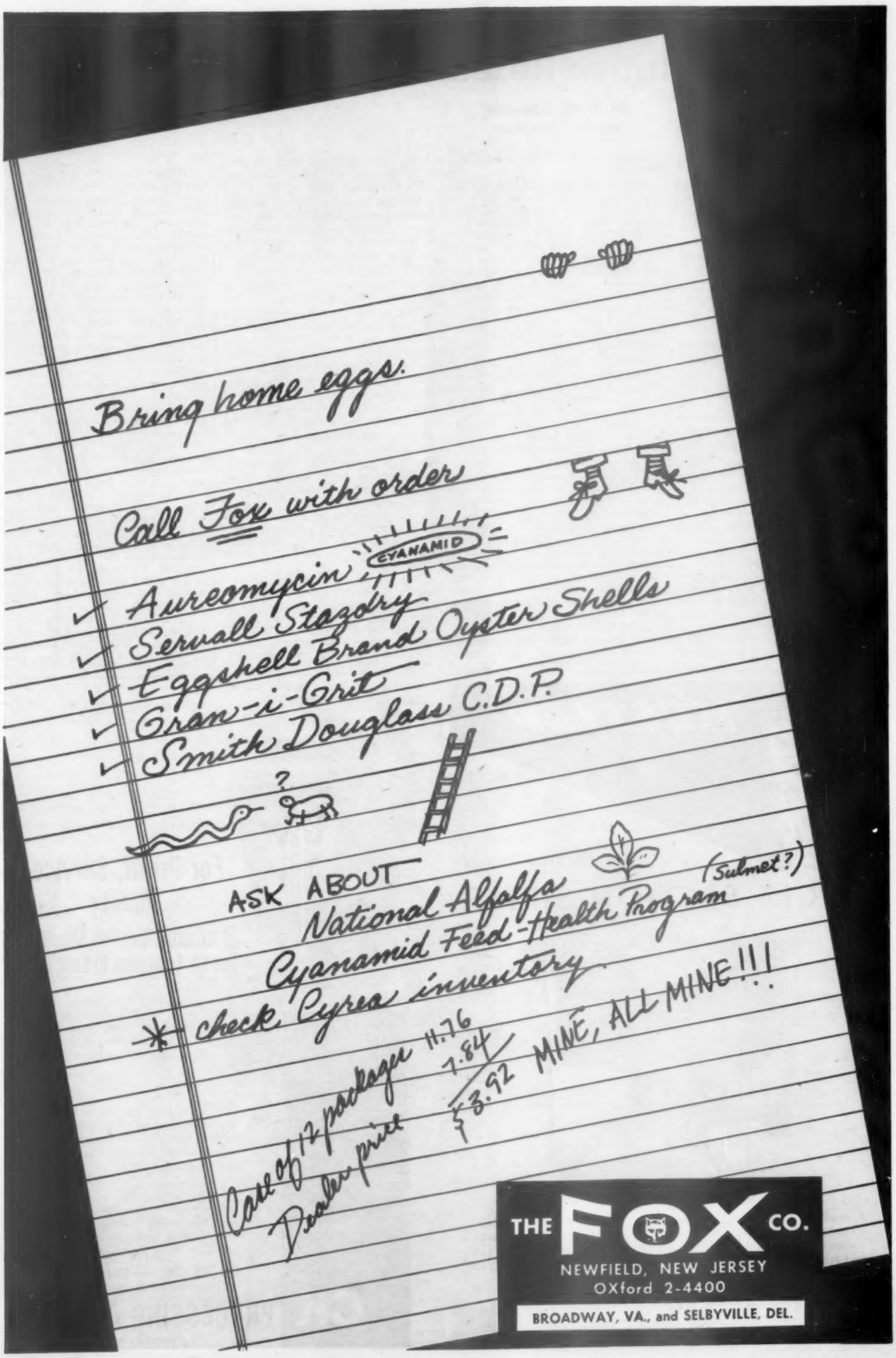
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Report on the Annual Meeting of the Animal Nutrition Research Council

By Dr. H. Yacowitz
Nutrition Consultant

EDITOR'S NOTE: *The accompanying report is on the annual meeting of the Animal Nutrition Research Council held Nov. 1 in Washington. The author is Dr. H. Yacowitz, nutrition consultant whose office and laboratory are located in Bound Brook, N.J.*

Leading nutritionists from universities, government agencies and industry presented their research findings and summarized the current status of the following subjects during the annual meeting of the Animal Nutrition Research Council:

- Chemical and biological assay procedures and assay standards for vitamins E, K and A.
- Problems in the use of laboratory animals for toxicity studies.
- The chick edema factor.
- United Nations' efforts in meeting protein food scarcity in underdeveloped countries.
- Vitamin A and carotene for ruminants.

ASSAYS AND STANDARDS FOR VITAMINS E, K AND A—Report of the ANRC technical projects committee.

Vitamin E—A two-week chick assay for low potency feeds and a three-day chick assay for high potency products were reported by Dr. L. D. Matterson of the University of Connecticut. These assays depend on a linear response in liver storage of vitamin E when graded levels are fed to chicks. The detailed procedure was recently published in the Journal of Nutrition. The chemical analysis was simplified so that the costly molecular distillation apparatus no longer has to be used. The simplified procedure involves chromatography using a secondary magnesium phosphate column.

The relative biological potency of d-alpha tocopherol was found to be 1.2 times greater than dl-alpha tocopherol. There were no significant differences in biological availability of samples of the alcohol, acetate ester, oils or gelatin beadlets. Dr. Matterson listed the approximate minimum requirements for vitamin E. Expressed in I.U. per pound of feed, these minimum requirements are as follows: Chicks 9-13.5 I.U., ducks 4.5-9 I.U., turkeys 9-13.5 I.U., swine 9 I.U., calves 9 I.U. and sheep 13.5 I.U.

Comment—The fact that there was no significant difference in the biological availability of the oil forms on dry carrier or the beadlet forms of vitamin E is of practical importance to the feed manufacturer faced with the problem of selecting a vitamin E supplement.

Stability of vitamin E in feeds was not discussed in this paper but is an important factor in the case of nonesterified forms of the vitamin.

Vitamin K—Dr. H. S. Perdue of Abbott Laboratories has developed a chick assay which involves increasing the vitamin K requirement by feeding a high level of sulfaquinoxaline (0.1%). The addition of graded levels of vitamin K to this diet results in a linear increase in blood prothrombin levels.

Dr. Perdue found that menadione sodium bisulfite was two to three times more effective than vitamin K in this chick assay using the ANRC reference diet.

Vitamin A—The recently adopted ANRC gelatin coated, all-trans vitamin A reference standard has excellent biological availability and feed stability, stated J. C. Fritz of Dawe's Laboratories. There is a small loss in potency when the standard is stored at room temperature. This loss is approximately 1% per month; however, storage under refrigeration reduces this loss to a negligible amount. Dr. Stan Ames of Distillation Products Industries pointed out that the vitamin A standard is primarily for use in feeding trials and was not intended to replace the USP vitamin A oil used as a reference standard in chemical and spectrophotometric assays for vitamin A. The ANRC reference standard can be purchased from the U.S. Pharmacopeia Office in New York City.

Comment—Dr. Leo Friedman of the Food and Drug Administration emphasized that all groups conducting animal studies with vitamin A should use the ANRC reference standard.

The use of this standard in university, industrial and feed manufacturer laboratories is of great practical importance to every feed manufacturer using vitamin A. This reference standard can serve as a base line to evaluate the numerous vitamin A products being offered to the feed industry.

CHICK EDEMA—In 1957 chick edema disease accounted for the loss of millions of dollars' worth of broilers, according to Dr. Leo Friedman of the FDA. In addition to producing edema in the heart sac and subcutaneous tissues of chicks this toxic factor rapidly reduces egg production. Hens do not show the hydropericardium symptoms seen in the chick. Swine show depressed growth from this factor and the toxic principle can be found in the fatty tissues of pigs fed toxic fats. In dogs, 10% of the toxic fat resulted in poor reproduction and lactation. Females lost hair while pups showed inferior growth and high mortality.

Feeding of low levels of toxic fat (0.25% of the diet) for five months resulted in reduced testicular development in chicks. Dr. N. R. Artman of Procter & Gamble reported on the isolation and partial identification of several apparently related toxic factors from toxic fats.

In agreement with workers at Merck, the toxic factors were found to be high in chlorine. A highly chlorinated aromatic compound, $C_{14}H_8Cl_6$, was considered the most likely formula for one of the toxic fractions. Levels as low as 1 ppm. in the ration resulted in death and 0.05 ppm. produced hydropericardium in chicks.

The AOAC has officially adopted a casein-sucrose diet used to test for the presence of the chick edema factor. This test is used for many prod-

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Lemanco's OVERHEAD BIN SYSTEM CUTS COSTS TO BUILD THIS MODERN MILL

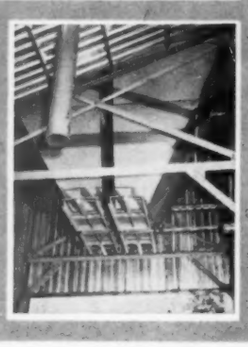
OVERHEAD BINS AND STRUCTURE CAN HOUSE MACHINERY AND EQUIPMENT TO SUIT MILL REQUIREMENTS OF ANY AREA.

The Lemanco system of overhead bins and structure provides a starting point to build an efficient, economical mill, stripped of innumerable expenditures to make the ultimate cost surprisingly low.

The Lemanco overhead bins with galvanized sides and roof, smooth walls with no tie rods, having capacities from five to 32 tons per compartment, serve as the roof while the skin is fastened to the structure. With this type of construction all the advantages of gravity flow are offered—speed, no augers, no motors, less labor—and a low cost per finished feed tonnage.

Demonstrating the flexibility of the Lemanco overhead bin system is the above mill recently erected in Illinois. It has nine hoppers overhead with four used for concentrates and two for ground grain. The other three are used for extra capacity where more of one concentrate is used than another. Additional storage can be added when needed. In other words, you are not fenced in as you can be with on-the-ground storage bins.

Even though this particular mill may not suit your requirements, the general idea can be utilized and profitably adapted to your needs. With this type construction your contractor can often add additional equipment and stay within your budget. Discuss this design with your mill equipment dealer, or write or call Lemanco.



Equipment in place before skin is added showing console and switches for air gates as well as dial for weigh hopper scale. From one position operator can control air gates on nine ingredient bins, regulate hammer mill, turn head, weigh and operate discharge gates of four customer load-out bins. One man can grind, mix and deliver at the rate of 24 tons per hour.

This mill in the blue grass country of Kentucky also uses the Lemanco overhead system for a weigh buggy operation.

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ucts derived from high temperature processing of fats and has been useful in minimizing dangers from toxic fats in the feed industry.

Comment—The FDA and industrial laboratories are doing an excellent job of tracking down these toxic factors. It is important that this work be continued since it may help answer some basic questions regarding the toxicity of over-heated fats, and has important implications in both human and animal nutrition.

LABORATORY ANIMALS IN TOXICITY STUDIES—Dr. Ken Morgareidge of Food and Drug Research Laboratories, Inc., reported on the many factors which affect the toxicity testing of drugs. The species of animal used, environment during the test, basal diets used, experimental design and numerous other factors influence the toxicity. The subject of "negative toxicology" or "no effect levels" of drugs is now being tested in order to satisfy rigid government regulations regarding drug safety. A "no effect level" is one which produces no measurable chemical or physiological effect in animals or man. "No effect levels" are extremely difficult to evaluate since tests involving cellular metabolism and physiology, isolated cell studies, psychopharmacology and others are required.

Comment—The long term animal testing of drugs using many different criteria for safety is very costly. These tests will increase the cost of developing new drugs and also greatly lengthen the time factors in marketing new products. Through the development of new automated research instruments and unique animal testing techniques perhaps the future of new drug development will not be as grim as it now appears.

UNITED NATIONS' EFFORTS IN MEETING PROTEIN FOOD SCARCITY—Protein is scarce in the world today, especially animal proteins, stated Dr. Max Milner of UNICEF. Through UNICEF, and other groups, surplus dry skim milk is being sent by the U.S. to foreign countries. Research is being done on fish flour, oilseed presscakes, spray dried soy milk and similar products for human use in underdeveloped areas. One of the major problems in this program is the effect of processing on protein quality. Chemical assays for amino acids in many of the plant proteins do not give a true indication of biological value of the protein. A chemical method for the determination of available lysine was developed in Europe and appears to correspond with animal data.

Dr. Milner ended his discussion by mentioning that the U.S. may eventually need to rely on plant proteins for human food.

Comment—The chemical method for the determination of available lysine is being used in the U.S. to test processed cottonseed meal and appears to have practical application for this purpose. The use of fish flour as a human food seems to be a sound program from the nutritional standpoint. Sanitary methods for production of fish flour will have to be developed.

SYMPOSIUM ON VITAMIN A AND CAROTENE FOR RUMINANTS—Vitamin A Requirement of Growing and Fattening Beef Cattle—Some of the shortcomings of older work on vitamin A requirements were pointed out by Dr. A. L. Neumann of the University of Illinois. Most of the older work involved mixtures of carotenoids which produced variable results since the carotenoid sources (largely forages) were not constant in composition. The pioneer studies of Dr. H. R. Guilbert have been used as the basis for practical vitamin A requirements. Since Dr. Guilbert used a dairy-beef cross, fed no additional vitamins and used low energy rations, the results he obtained do not apply in our present beef cattle feeding programs.

The 1958 National Research Council publication on nutritional requirements of beef cattle based the vitamin A requirement on the work of Dr. Guilbert; these requirements tend to be too low. This is evidenced by the fact that many experiment stations report responses from added vitamin A using rations which contain enough carotene to meet the NRC requirement. The NRC requirement is equivalent to 1.7 mg. of carotene per 100 lb. live weight, or 6,800 I.U. of vitamin A per 1,000 lb. steer per day.

Since 10,000 I.U. of vitamin A per day does not maintain liver storage in steers and 40,000 I.U. per day provides good liver storage, Dr. Neumann suggested that the requirement for adequate liver storage was somewhere between these two figures.

High nitrate fertilization and a high planting rate per acre result in increased nitrate levels in plants. The nitrate level decreases about one third during silage fermentation. High nitrate corn silage will reduce liver storage of vitamin A very rap-

(Turn to page 24)

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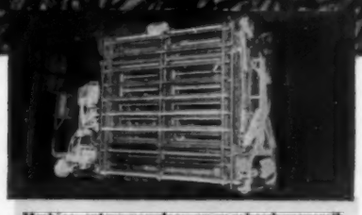
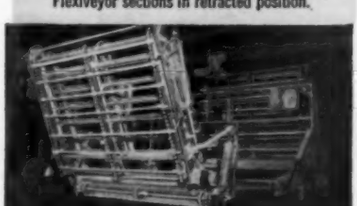


Machine enters car door on overhead monorail. Flexiveyor sections in retracted position.



First flexiveyor wing (on each side) goes down.

First and second flexiveyor wings are down; third being lowered.

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Stabilized Hetrogen K is the new kind of vitamin K premix recently developed by Heterochemical Corporation. It's the only vitamin K premix with proven superior stability during storage and mixing.

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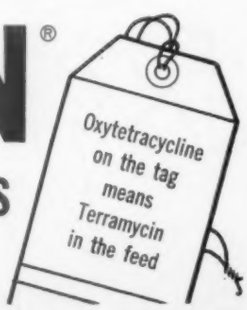

idly and is another factor contributing to increased vitamin A requirements.

Vitamin A and Carotene Requirements of Dairy Cattle—A review of requirements for calves was presented by Dr. L. A. Moore of the U.S. Department of Agriculture. Published requirements for vitamin A and carotene vary considerably. The relative amounts of vitamin A and carotene which will produce equal blood levels in calves range from 1:4 (University of Wisconsin) to 1:8 (University of Connecticut). The carotene requirement varies with growth rate, slow growing calves having a requirement 75% as high as fast growing calves.

Dr. Moore mentioned a very interesting case of vitamin A deficiency in heifers 10 to 20 months old and fed 9 to 10 lb. of concentrate per day. These animals received no vitamin A or carotene in the concentrate but had access to good pasture. High concentrate intake markedly reduced the consumption of forage. An examination of the eyes showed papilledema (edema of the optic nerve due to increased spinal fluid pressure), blood levels of A were low and some deaths resulted.

Based on the divergent data on requirements for vitamin A, Dr. Moore recommends that the NRC minimum requirements for dairy cattle be multiplied three to five times to arrive at practical feeding levels.

Very little information is available on vitamin A requirements for milk production.

Chronic Nitrate Toxicity—Forages such as barley, wheat, sugar beets, alfalfa, sunflower, turnip, pig weed, thistle, rag weed and others may be high in nitrate. The grain portion of the plant does not accumulate nitrate. Dr. W. H. Pfander of the University of Missouri further emphasized that plants can accumulate as much as 18% of potassium nitrate on a dry weight basis.

Normally, as the plant matures the nitrate is converted to true protein. The addition of phosphate fertilizers to the soil will decrease the level of nitrate in the plants.

Dr. Pfander found that the protozoa in the rumen became non-motile when nitrates are fed. Microscopic examination of rumen fluid was used to detect this effect.

Sheep are more tolerant to nitrates than are cattle. In sheep fed 0.5 to 1% potassium nitrate on a continuous basis the liver was devoid of vitamin A. Nitrites, which are formed from nitrates, are metabolic poisons and result in the formation of methemoglobin. Unlike hemoglobin, methemoglobin can not carry oxygen.

The effects of chronic nitrate toxicity apparently involve more than just vitamin A and can not be counteracted completely by feeding vitamin A.

Vitamin A Sources and Their Potencies for Ruminant Supplementation—The various isomers of vitamin A (all trans, 13 cis, 9 cis and 9, 13 di-cis) were evaluated quite some time ago in chicks and rats by Dr. Stan Ames and co-workers at Distillation Products Industries. The all trans isomer was found to have the highest biological activity. Unfortunately, little work has been done to evaluate the biological potency of these isomers in ruminants. Beta, alpha and gamma carotene and cryptoxanthin also form trans and cis isomers. These isomers differ markedly in biological activity. The beta carotene chemical assay measures the all-trans isomer and also the mono cis isomer. The mono cis isomer is 38% as active as the all-trans isomer in rats.

Dr. Ames then pointed out that isomerization of beta carotene occurs in feedstuffs, such as alfalfa, during storage.

Dr. Ames finds that liver storage assays are much more meaningful than vitamin A levels in the blood. Blood levels of vitamin A are transitory and will plateau at high levels of vitamin A intake. On the other hand, liver values do not plateau and are better estimates of the vitamin A status of the animal.

NRC published data on beta carotene conversion to vitamin A indicate that beef cattle and sheep convert 1 mg. of beta carotene to 400 I.U. of vitamin A. Vitamin E aids in the conversion of carotene to vitamin A. This factor of 400 I.U. of vitamin A per mg. of beta carotene is not very accurate. However, using this factor for several feedstuffs, Dr. Ames showed the following:

Alfalfa leaf meal containing 60 mg. of beta carotene per lb. actually furnishes only 24,000 I.U. of vitamin A per pound when fed to cattle. This same alfalfa leaf meal is represented in nutrition tables as having 100,000 I.U. of A per pound. Similarly, corn which contains 1.3 mg. of beta carotene per pound actually furnishes only about 520 I.U. of vitamin A per pound.

Comment—Considerable research is needed on vitamin A requirements and the utilization of various vitamin A and carotene isomers in ruminants. The fact that beta carotene in stored feedstuffs isomerizes to a form having reduced biological activity may be of practical importance when feeding stored corn or old hay.

Use of high concentrate rations along with reduced roughage intake puts a further stress on vitamin A requirements. Until the requirements for vitamin A have been more definitely established under field conditions, the feed manufacturer should use levels which produced liver storage in controlled university tests. For beef cattle, this level ranges from about 20,000 to 30,000 I.U. of added A per head per day.

INCORPORATE IN COLORADO

GRAND JUNCTION, COLO.—Ute Mills, Inc., has filed articles of incorporation listing $49,000 authorized capitalization to establish and maintain a general feed, grain and milling business. Incorporating directors are Donald B. and Barbara R. Rooks, and Burton H. Harriman.

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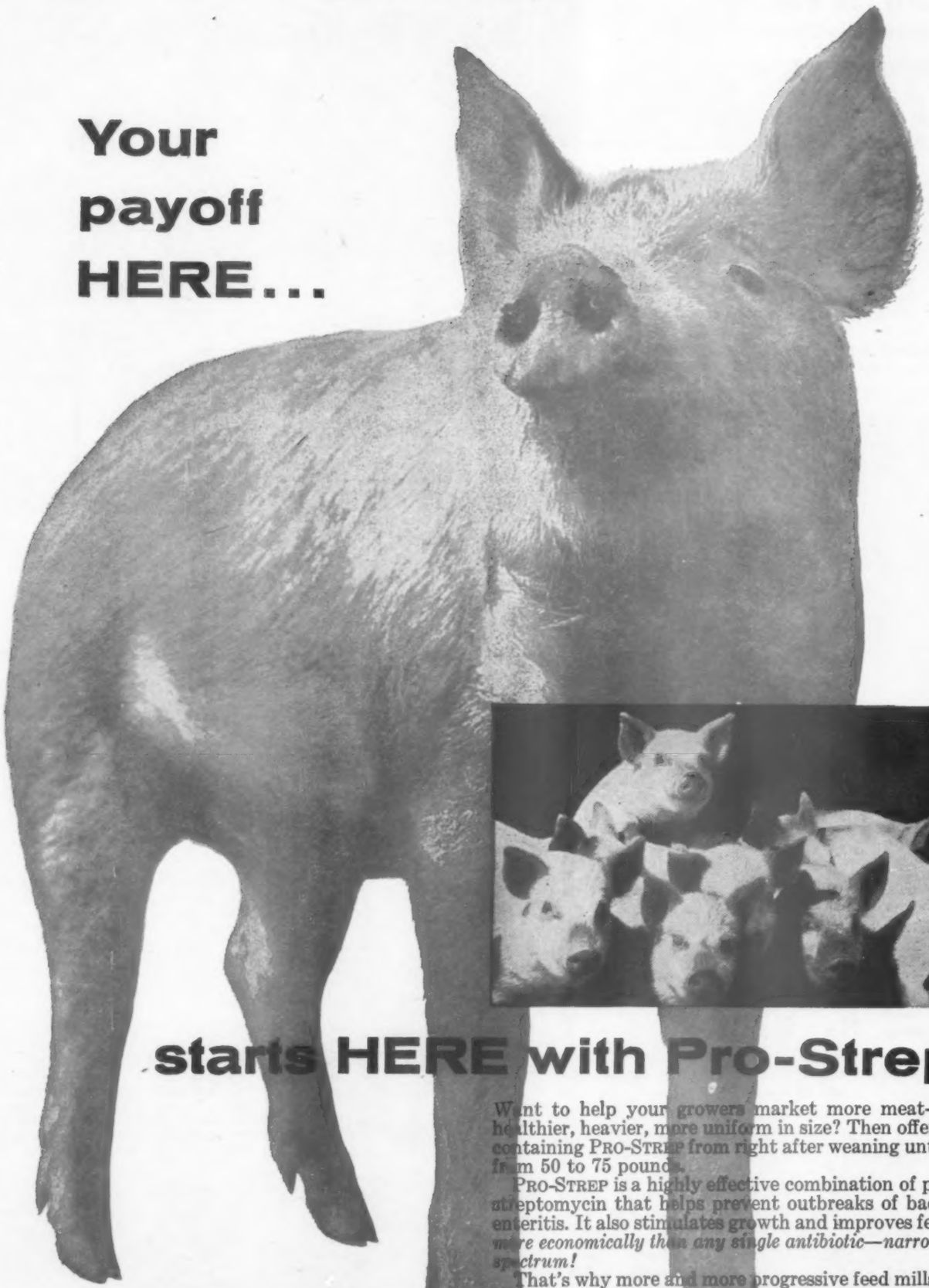

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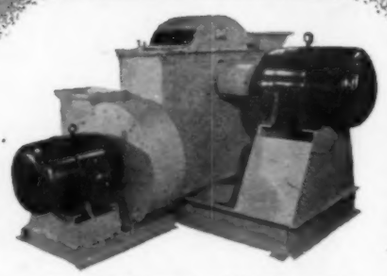

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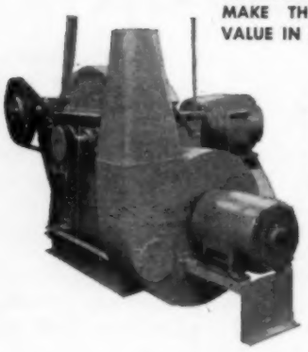

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English Feed Firm Introduces Mobile Bin Delivery System

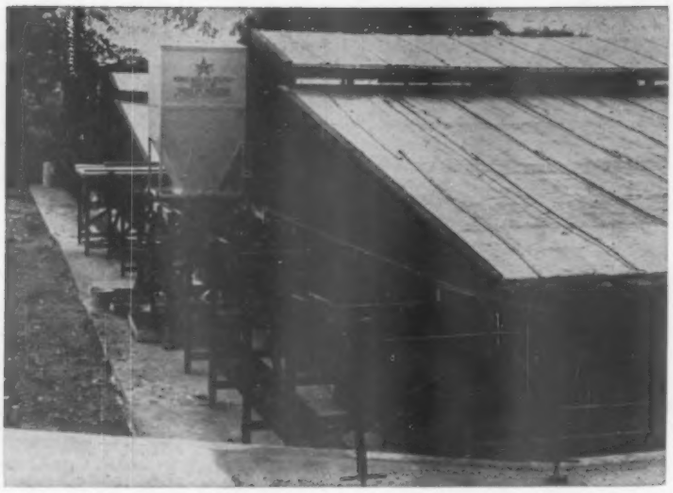
Across the Atlantic in England at Diss, Norfolk, there's a feed manufacturing concern, W. F. Tuck & Sons, Ltd., that has introduced its new mobile bin delivery system to customers. The accompanying photographs show how the system works.

RIGHT — One-ton wheeled hoppers are filled with bulk meal or pellets at the Tuck & Sons mill. A fork lift truck lifts each hopper onto the bed of a truck.

BELOW—Eight 1-ton bulk bins are shown here in position on delivery truck equipped with pairs of rails which match small wheels on bottom of each weather- and vermin-proof bin.

LEFT—At the farm the containers are rolled off the truck onto a special stand with a small winch on the stand. Meal or pellets then can be discharged from the bin into a cart.

BELOW — Or the feed can be discharged into a 500-lb. container, which is lifted with a tractor attachment and moved inside a hog house, for instance, where the feed is discharged into a feeder from a bottom opening in the bin.



Another alternative: The T&S mobile bins can be winched off the truck onto a track which runs along an end or side of a broiler or hog house. The bins are rolled along this track to any number of positions and the feed is emptied from an attached chute into a conveying system. Emptied mobile bins are returned to the feed mill and cleaned with formaldehyde gas before they are used again.

Illinois Firm Researching Channel Catfish Food

By Special Correspondent

MONMOUTH, ILL.—A feed products company here has undertaken a research and development project which it anticipates will result in a pelleted fish food that will produce faster-growing and better-flavored channel catfish.

Ralph Wells, president of Wells & Co., says his firm hopes to have on the market soon a "scientifically designed" food for commercially-raised channel catfish.

"More Per Acre"

Mr. Wells says catfish are high in protein and more pounds of them can be raised per acre than either beef or pork.

The Wells & Co. project eventually will involve hatching, growing, genetics and nutrition. "Little has been accomplished in breeding and selecting meat-producing fish for vigor, rate of growth and other desired characteristics as has been developed in poultry and other farm animals," Mr. Wells says. "We may even attempt cross-breeding and hybridization."

Dr. Milton Bowman, assistant professor of biology at Monmouth (Ill.) College, is consulting biologist and technical director for the research project. Dr. Bowman's assistant is C. Thomas Weeks of Rochelle, Ill., one of the professor's students at the college.

Mr. Wells explained that pioneer research will be conducted in a building constructed especially for the project. This 24 by 36-ft. concrete structure houses a large reservoir and a series of shallow troughs where the fingerling catfish will be hatched, raised and observed.

The tanks are painted black on the inside to convince the catfish they are in their natural habitat. Swift flowing streams of water from nearby Citizens' Lake also add to this illusion.

Wells & Co. is known as the world's third largest producer of dried dog food. In one month the company shipped 3,100 tons of dried dog food to distributors in 40 states.

CATFISH FOOD RESEARCH—Dr. Milton Bowman (left), Monmouth (Ill.) College biologist, and Ralph Wells, Wells & Co. president, examine fingerling channel catfish in new research building built by the Monmouth firm.

University, Industry Cooperating Research Discussed at Rutgers

NEW BRUNSWICK, N. J. — How the Rutgers University poultry science department can serve industry through cooperating research was pointed out at a special research symposium here. Invitations were issued to representatives of firms which serve agriculture and are located in and around the New Jersey area.

The changing emphasis to graduate study and industrial research in agricultural institutions was pointed out by Dr. L. G. Merrill, dean of the Rutgers agricultural experiment station, and by Dr. P. D. Sturkie, head of the department of poultry science. Dr. Sturkie reviewed research work now in progress at the college. Specific studies outlined included those on acclimatization and performance of layers by Dr. H. S. Weiss and avian atherosclerosis by Dr. Hans Fisher.

The need for logical planning of research was stressed by a guest speaker, Dr. James Brian Quinn, associate professor of business administration, Amos Tuck School of Business Administration, Dartmouth College, Hanover, N.H.

Research should be planned to fulfill the goals of any given company, Dr. Quinn declared. Objectives to be considered include: (1) nature and stability of the business, (2) growth rate of the company, (3) direction of growth, whether in depth or toward diversity, (4) methods of management and (5) image of the company.

About 80 persons attended the day-long meeting.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Timely and Worth Noting

Greater numbers of hogs are now being raised in total confinement, yet relatively little data has existed until quite recently about the optimum density and floor space allotment for growing-finishing swine. Since it is possible to vary floor space allotments by not only changing the size of pens but also by varying the numbers of hogs per pen (density), it was decided in recent cooperative trials by the California and USDA researchers to investigate both these aspects of the problem (Jour. of An. Sci., 20, 3, 543).

The experiment was of the 3 x 3 factorial design with space allotments of 5, 10 and 20 sq. ft. per hog and hog groups of 3, 6 and 12 each. Two replicates were completed during the summer of 1959 and the winter of 1959-60, with 70 and 68-day experimental periods, respectively. Space allowances were of unencumbered floor space and were used for sleeping, standing, walking, defecating, etc. The floors were of concrete and dividing fences were of spaced lumber. All animals were housed in the university central farrowing barn, with no outdoor pens or runs available. Guard rails and pig brooders were removed, and panels were used to adjust various pen sizes. The same feeding and management practices, other than space and density variations, were practiced with all groups of animals.

The combined results of the two replicates showed that hogs with 20 sq. ft. of floor space gained significantly faster than those with only 5 or 10 sq. ft. Interestingly, the number of hogs per pen had no effect on gain, but the number of hogs per group did influence feed consumption with hogs in groups of three consuming more feed than those of 6 and 12. Thus, increased feed utilization was associated in this experiment with increased space and increased group size. Performance did not differ much between the winter and summer trials under the environmental temperatures existing. Even with daily cleaning of pens, the animals in the 5 sq. ft. pens were extremely dirty and had no well-defined dunging area. Groups with higher feed utilization tended to spend more time "sleeping" and resting and less time standing or walking and possibly eating. Thus, hogs spending more time eating did not necessarily consume more feed.

It should be pointed out that the 16% protein ration was fed throughout the experiment in small self-feeders with two feeder openings each. The space occupied by the self-feeder was not included in that allowed the hogs. They were allotted so that there was an opening for each three hogs. Thus, in a pen of three, one opening was permanantly closed, whereas in a pen of 12, two self-feeders were available.

A field trial was also conducted comparing 9, 16 and 32 sq. ft. per pig. Crossbred hogs were fed a commercially mixed feed in self-feeders where adjustments were made so that there

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February 1, 1961

Dorn and Mitchell Laboratories, Inc.
Opelika, Alabama

Dear Sirs:

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Evidently cocci is "fast on its feet" and has become much stronger since the industry started using coccidiostats. Also, different farms have different strains and types of cocci.

We started using CocciVac in August 1959 and have now grown over 300,000 started pullets on it. We plan to grow 300,000 on it this year. We grow beautiful pullets on CocciVac. They live on the customer's farm. They don't die with cocci during the growing period. They don't die with it in the laying house. Production has been very good. Losses from all types of leucosis in the growing period and the laying house with our started Babcock Bessies and Bonnies have been very low.

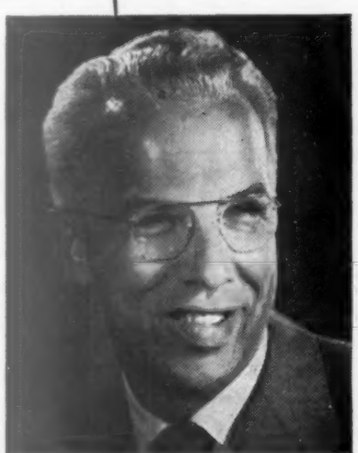
Here's our program: CocciVac in the water at four days. Trithiadol in the starting mash. Gas brooders. Keep litter damp enough to allow cocci to sporulate. In real dry houses the floors should be wet down enough to allow coccidiosis to sporulate. Our experience shows that some chicks will show "cocci signs" at three or four weeks of age but do not die. At eight weeks they are beautiful and they stay beautiful.

Sincerely yours,

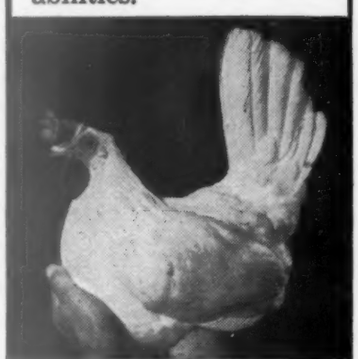
Monroe C. Babcock

MCB/b

Chicks Make Great Layers



Mr. Babcock is one of America's leading breeders. His Babcock Bessies and Bonnies have long been noted for their profit-making abilities.



CocciVac *Type 4 is available for broilers. Types A and B for layers and roasters — and for broilers in heavy exposure areas.*

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PENB'S NEW DIRECTORS—Shaping the future policies of the Poultry & Egg National Board at its first meeting of the 1961-62 year in Chicago's Bismarck Hotel was the new board of directors. Directors attending the meeting were, outside, left to right: William T. Diamond, Illinois; Noel Shaver, Indiana; Sam Bush, Florida; W. J. Moore, 1st vice president, Texas; John P. Holton, Indiana; Dr. John G. Salsbury, Iowa; Harry Grant, Massachusetts; Russell Rathbone, Washington; Ralston R. Hannas, treasurer, Illinois; Dr. L. A. Wilhelm, secretary, Illinois; Howard Kauffman, president, Illinois; Lloyd H. Geil, general manager, Illinois; James H. Baxter, Jr., Delaware; Oscar Miller, California; John E. Copenhaver, Pennsylvania; Loren Amstutz, Ohio, and James C. North, Minnesota.

Other directors attending were, inside, left to right: Maurice Pickler, North Carolina; Mays Montgomery, Alabama; H. B. Wallace, Iowa; Chester B. Franz, 2nd vice president, Missouri; John Randolph, Arkansas; Morris G. Smith, Maryland; Ralph J. Thomas, Illinois; Carroll Eiler, Indiana; Don Turnbull, Missouri; Blanton Smith, Tennessee; Everett T. Conaway, Delaware; John R. Hargreaves, Maryland; James J. Warren, Jr., Massachusetts, and Dr. George F. Godfrey, Illinois.

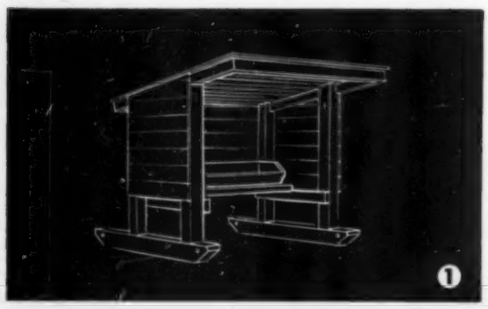
were 4.0, 5.3 and 5.3 hogs per feeder opening, respectively. These hogs were housed in a feeding barn and outside pens with concrete floors, with half of the floor space in the outside pen. Average total gains were 63.9, 60.4 and 53.2 lb. for the 32, 16 and 9 sq. ft. per hog treatments, respectively. In the same order, feed per unit gain, was 3.92, 3.87 and 4.17 lb.

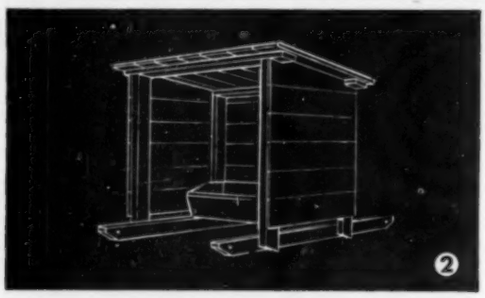
In general this study indicates that within the limits of these trials, increasing the space available per pig from 5 to 20 sq. ft. or more will increase weight gain and feed utilization about 10%. Increasing the number of pigs per group from 3 to 12 increased feed utilization by about 10%. It should be noted that these differences are not large enough to warrant a blanket recommendation on space allowance. The most economical recommendation, as pointed out by the authors, will depend upon the cost of additional pen space in relation to the cost of feed. They also state that it would appear important to extend the study to larger, commercial-sized groups of hogs.

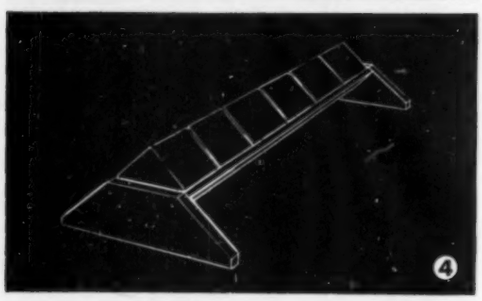
In this connection, it would seem timely to review the other various recent reports on this subject by different workers. Using an insulated, enclosed and ventilated building, it has been shown that results can be quite different than those given by the California group. Burnside of Southern Illinois University feels that hog farmers who crowd their modern finishing buildings are on the right track (1961). Gains and feed efficiency were just as good and sometimes better when hogs were crowded with only 7 sq. ft. per hog than when the hogs got up to 15 sq. ft. apiece based upon results of eight tests conducted during both summer and winter. Burnside's hogs weren't always within the recommended 50-70° comfort zone either!

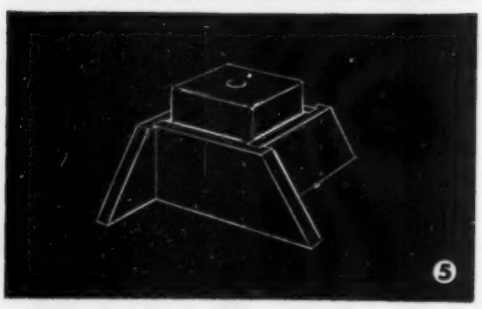
Michigan results with slatted floors have been quite conflicting, but in general have tended to favor about 8 sq. ft. of floor space per hog (Hoefer, 1961). Four tests were conducted with the latest test showing that pigs with 8 sq. ft. of slatted-floor area apiece gained about as fast and efficiently as those with more space. They gained 6% faster on 5% less feed than pigs with only 6 sq. ft. of floor area per pig. Pigs in one of the earlier tests made faster gains on less feed with 8 sq. ft. than with either 12 or 16 sq. ft. But, in another test, pigs made their best gains with 12 sq. ft., their cheapest gains with 10 sq. ft., and those with only about 6 sq. ft. did about as well as those with 8 sq. ft. Crowding pigs into only 6 sq. ft. apiece seems to hurt the performance, particularly after the pigs weigh about 150 lb.

It is quite interesting to note that in the Michigan work the best-doing pigs on concrete floors had 15 sq. ft. per pig. These gained 1.72 lb. per day









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These safe, simple and long-lasting feeding stations were designed by Morton four years ago. Since then, thousands have been built from these plans, distributed through Vo-Ag teachers and County Agents. Now we're offering them—*through you*—to the farmers and stockmen of America!

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1 CATTLE FEEDER Has divided mineral box that can be removed for cleaning. Can be moved on sturdy skids to any part of range or pasture.

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4 MULTIPLE BLOCK FEEDER Keeps salt and minerals off the damp ground, prevents "wet bottom" block waste.

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NEW and BETTER...for LESS!

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$14.50

8" diameter

- Adjusts to every angle!
- Only two sections! • Needs no welding!
- Heavy gauge die-formed steel
- Two-piece draw band • Flanged ends
- Economical • Cuts installation costs

ready for immediate delivery

Write: Dept. A

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The egg that laid an egg

This turkey egg didn't hatch. It was the hen's 40th egg.

To the turkey raiser this is one less poult, that much less profit potential. He should know that when a turkey hen's reserve of vitamin E runs low during the laying season, few eggs hatch. In one group of hens on a *practical type* diet the sharpest drop in hatchability came just after the 40th egg.

Hens on the same ration plus high levels of vitamin E zoomed right past the difficult forties with no drop-off in poult production.*

It's no trick at all to minimize the after-40 risk in a turkey breeder ration. Fifty cents buys enough *Myvamix® Vitamin E* to fortify to a level of 5 International Units per pound the ration to feed 300 hens for a week.

This is less than the value of one poult. If during the week just one egg hatches that wouldn't have hatched otherwise, the *Myvamix* will have paid for itself.

It's cheap insurance, any way you look at it. If you'd like a little closer look, write to ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

*Project No. 715, Washington Agricultural Experiment Stations, Department of Poultry Science, State College of Washington, (*Poultry Science*, 36, 1344 (1957))

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AUSTRALIAN HOSPITALITY—Australian hospitality and the poultry business mix very well Dr. Cliff D. Carpenter, chairman of the U.S. participation committee for the 12th World's Poultry Congress, can attest. Dr. Carpenter, left, is holding a bull roarer, presented to him on his recent trip to Australia. Lord Mayor Jensen of Sydney, center, made the presentation. At right is J. V. Moroney, chairman of the Australian committee for the congress. The bull roarer is a device, which, when whirled, makes a noise similar to the roar of a bull. It is made by Australian bushmen. Dr. Carpenter's trip to Australia was to help make plans for the congress, which will be in Sydney Aug. 10-18, 1962.

and made a pound of gain on 3.31 lb. of feed. Solid-floor pigs allowed 10 sq. ft. of floor space gained 1.66 lb. per day and made a pound of gain on 3.4 lb. of feed. Relatively speaking, there was very little difference in performance between pigs on slat floors and concrete.

Washington State University workers (1961) have reported on the following treatments with 156 weaner pigs: (1) eight pigs allotted 8 sq. ft. each; (2) eight pigs allotted 12 sq. ft. each; (3) eight pigs allotted 24 sq. ft. each, and (4) 28 pigs allotted 12 sq. ft. each. All pens were constructed so that half of the total area was outdoors and half indoors. The pigs were fed an all-pelleted complete ration. No appreciable differences were noted between treatments with respect to gain or feed efficiency. The pigs on 8 sq. ft. of floor space tended to have somewhat leaner carcasses than the other groups when specific gravity and backfat were used as the criteria. No such effect on carcass quality was noted in the California-USDA work previously reviewed above. In the Washington work there was less tail biting in small groups.

The possible importance of greater floor space during the finishing period of swine fattening is well shown by two trials from the Cargill-Nutrena research farm (1960). Hogs given 13 sq. ft. of total floor space per head during the finishing period gained 11.3% faster and consumed 6.5% less feed per unit of gain than a similar group provided 9 sq. ft. of total floor space during a one month trial. In a second 28-day trial with three groups of 49 head each, the pigs started at 146 lb. average weight and finished at about 200 lb. Pigs having 19.6 sq. ft. of floor space per animal had daily gains of 2.11 lb. on 339.3 lb. of feed per cwt. gain. The same figures for pigs on 14.7 sq. ft. were 2.01 lb. and 357.1 lb., respectively. For those on 9.8 sq. ft., they were 1.61 lb. and 428.7 lb., respectively. A projection was based on a cost of $60.40 a ton for the complete pelleted diet, the actual sale price of the hogs, and the assumption that three groups of hogs a year could be fed out with the equipment over a period of 15 years. It showed that the space allocation of 14.7 sq. ft. per pig would reduce the feed costs $2,822.45 and the lower injury and lameness losses an additional sum of $4,973.85 over the 15 year period when compared to pigs raised in a lot providing only 9.8 sq. ft. of floor space.

It can be seen readily that the data so far secured is somewhat conflicting, but it seems that an allotment of 8 sq. ft. probably is adequate for hogs up to about 140-150 lb. liveweight. This is particularly true if well ventilated buildings and/or slat floors are used and if the climatic conditions are not too severe. On the other hand, in the southern and hotter western sections of the U.S. it would seem wise to increase the space allotments per hog to approximately 15-16 sq. ft. or more. This would be true especially for the finishing period from 140-150 lb. to marketing. Adequate feeder space, of course, should be provided, preferably no more than six pigs per hole (Purdue, 1960).

IT HAPPENED DESPITE THE ODDS

RENSSELAER, IND. — The odds against its happening were tremendous, but it happened.

Mrs. Linda Hess of Monon, Ind., won a drawing at the Hess & Clark exhibit at the Indiana Farm Progress Show held here. Her name was pulled from a drum containing the names of over 15,000 registrants who signed up at the firm's exhibit at the show. Mrs. Hess' prize was a heifer calf.

"A rare, but happy coincidence," Hess & Clark officials state. "Not only is Mrs. Hess not affiliated in any way with Hess & Clark—nobody named Hess has been active with the firm for many years."

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SAVE MONEY IN ANY FEED MILL

1. **FIT ANY SIZE MILL**—as the main bagger for the small mill or the small-batch bagger for the larger mill.
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3. **HANDLE ALL SIZES AND TYPES OF BAGS**—open-mouth textile or multi-wall paper—10 to 140 lb. capacities.
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   - **Bagholders**—camgrip (shown); also manual and air-operated.
   - **Spouts**—quick-change square or oval in a range of sizes.
   - **Feeder**—increases speed and accuracy—permits handling flakes, lumpy, and sluggish materials.
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   - **Feeder Control Switch**—starts feeder when gate opens... stops it when gate closes.
   - **Dust Sleeves**—keep dust out of mill.

No mill can afford to be without this extremely versatile, semi-automatic, low-cost bagger. Operates on the gross weigher principle with the weighed material dropping directly into the bag instead of a weighing hopper. Adjustable weight on threaded rod tares out weights of different types of bags.

Operator starts operation by pulling down gate handle. Gate opens and is held open by a trigger. Material passes into bag. Feeding continues until pre-set weight is in bag when gate cuts off automatically.

Why not see how this Richardson Semi-Automatic Bagger can make money in your mill. Write or phone... today! **Richardson Scale Company, Clifton, New Jersey.**

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Nichols

POULTRY FARM, INC.

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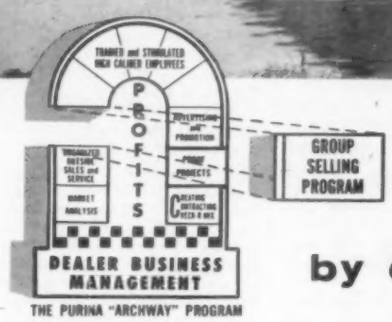
Meeting the challenge of the '60's with service

Purina Dealers in the district of "Sales Partner" Jorgens have planned field trips that are of real service to agriculture. This picture shows part of the crowd visiting the "Pig Parlor" owned by Warren Henslin. The lagoon in the foreground takes care of the "Pig Parlor" wastes.



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Purina Field Days serve farmers by demonstrating modern methods

Purina Field Days, planned, organized and conducted by the "Sales Partnership" of Purina Salesmen and their Dealers, are *service* to animal agriculture. They present methods perfected by Purina Research . . . demonstrate efficient practices on the farm . . . prove results with accurate figures.

Purina Field Days have added substantially to farm income in many areas by introducing new efficiency in the production of milk, meat and eggs . . . by showing how to save money and labor.

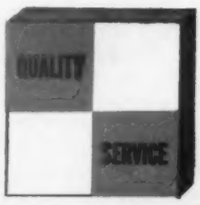
Purina Field Days are effective group selling. Dealership sales quickly move upward after a field day as farm folks apply the methods they've observed.

Why The Purina Franchise Is The Most-Sought Rural Retail Opportunity

1. Dealers who follow the Purina Archway Program realize worthwhile profits on their investments.
2. Purina offers a well-rounded money-management program for Dealers.
3. The Checkerboard is rural America's best-known trademark.
4. There's a Purina Chow especially adapted to every livestock and poultry production situation.
5. Purina offers complete programs of breeding, management, sanitation and feeding.
6. Dealers are backed by one of the world's outstanding commercial research facilities.
7. Purina provides a complete line of research-proved sanitation products.
8. A coast-to-coast network of mills serves Purina Dealers.
9. The Purina Salesman and the Dealer have a "Sales Partnership" relationship.
10. The Ralston Purina Company is the world's largest feed manufacturer.

There are progressive, independent Purina Dealers covering most areas. If you are in one of the few remaining markets where the Purina Franchise is available . . . and if you are interested in an outstanding investment opportunity, write: RALSTON PURINA COMPANY, Department F-112, St. Louis 2, Missouri.

G. L. JORGENS, "Sales Partner" to a number of Purina Dealers in southern Minnesota, has made field days a major activity in his district. Through these events, he has shown the way to higher farm income . . . to better tonnage for his Dealers.



PURINA . . . YOUR "PARTNER" IN SERVING ANIMAL AGRICULTURE

Technical Service Needs of Agribusiness Customers

By Elmer C. Denis
Manager, Marketing Research Division
Doane Agricultural Service

EDITOR'S NOTE: How much service can and should a feed company provide for farmers? This is an important question as agriculture and the feed industry change, and the accompanying article provides some views and suggestions on feed customers' service needs. The author, who is manager of the marketing research division of Doane Agricultural Service, St. Louis, says that each firm must continually reappraise its own resources and objectives in relation to the types of customers it has and expects to serve. The article is from a talk by Mr. Denis at the annual marketing seminar sponsored by the Sales Executives Council of the American Feed Manufacturers Assn.

We all hear a lot of grumbling about the depressed plight and declining importance of agriculture from vociferous preachers of gloom, doom and pessimism. Fortunately, there is another group whose actions, more forcefully than their words, give a completely different version—the action-centered proponents of a progressive, growing and productive agriculture.

Dr. Earl Butz, dean of agriculture at Purdue University, Lafayette, Ind., couches this conflicting outlook in these words, "Entirely too many people in this country think of agriculture as a declining industry. American agriculture is an expanding industry in every important respect except one—the number of people required to run our farms. We don't think of air transportation as a declining industry just because a pilot in a jet airliner can now take 100 passengers from coast to coast in half a day, as compared with 20 passengers in a day and a half two decades ago. This, like agriculture, is a strong and growing industry."

Agriculture is the nation's biggest industry. It employs 7.4 million workers—more than are employed in the steel industry, or transportation and public utilities combined.

Farmers spend $25-26 billion a year for goods and services to produce crops and livestock. This does not say that agriculture is not undergoing a change. Quite the contrary, it is an industry that is currently experiencing an accelerated rate of change—representing, in many respects, one of the most dynamic markets which American industry has to supply and service.

The current census of agriculture shows a 36.2% increase in the number of farms with gross income above $10,000, and a 30.2% decrease in the number of farms with gross income below $2,500 in the last five years. But, these figures do not reveal the most significant changes.

The census reports "much greater specialization and commercialization in the production of many farm products occurred during the last five years than during any 10-year period recorded by the farm census. Notwithstanding increases in the value of products sold or quantity produced, farms having milk cows declined 39%, farms raising turkeys declined 49%, farms selling eggs dropped 37%, farms raising vegetables for sale decreased 35%, farms harvesting Irish potatoes decreased 52% and farms harvesting cotton declined 41%.

"These changes reflect rapid technological advances in production practices, sweeping changes in the organization, specialization and operation of individual farms, the rapid increase in many individual farms in the use of non-farm in-puts, and the discontinuance of production by small producers with small-scale operations."

These changes reflect a turnabout in the advice which is beamed at the farmer from many sources. During and shortly after the great depression, the farmer was advised, "Don't put all your eggs in one basket—diversify." Now he is being told, "Put all your eggs in one basket—specialize."

In general, this is good advice and it is being rapidly accepted because it is good advice. But, beyond that, specialization in agriculture is being accepted because it is universal. The farmer is exposed to it, and recognizes its benefits in education, medicine, industry and many more of his non-farm contacts. Consequently, he is exposed to both direct and indirect evidence of the advantages of specialization.

This shift to specialization necessitates a re-evaluation of resource allocation, farm organization, operation and practices. Some farmers are doing this gradually, relying on their innate judgment and experience. More and more are turning to more sophisticated methods — high speed computers and linear programming techniques.

It is clearly evident with these changes in the farms, there are some mighty big changes in the farmer himself. To be successful in marketing to the farmer, as you well know, it's more important to know the farmer than to know the farm. It goes without saying that these changes occur in the farmer's mind before they occur on his farm.

Looking at the census again, the average farmer in the 21 northern states was a much bigger man than in 1954.

Summary for 21 Northern States

	Average per farm			
	1954	1959	Actual Increase	% Increase
Cattle (not counting calves)	12.5	18	5.5	44.0
Hogs and pigs sold alive	55.3	87.2	31.9	57.7
Milk & cream, $	2,198	3,853	1,655	75.2
Eggs sold, doz.	1,816	2,866	1,050	57.8
Acres/farm	212.7	245.7	33.0	15.5
Expenditures for feed for livestock and poultry, $	1,303	1,797	494	37.9
Decrease in number of farms				18.7

The number of farms producing any one class of livestock or poultry decreased more than twice as much as the decrease in total farms. This would indicate that the average farm has only half as many different classes of livestock or poultry as it did five years ago.

Now, if we assume that the average farmer spends as much total time reading, attending meetings, traveling and pursuing other activities to improve his knowledge as he did five years ago, how much more does he know about the production of milk, beef or eggs? Of course, it is quite likely that as he specializes he increases his educational efforts.

This, of course, raises the question: Is the farmer as dependent upon the feed dealer or feed salesman for nutritional or management advice as he was five years ago? Will he be more or less dependent in the future? It may be put another way: What type of customer will be dependent upon the dealer or company salesman and what type of customer will not? Does this make a difference?

I know of one firm that made a survey in one rather small area. They discovered that they had 65% of the feed customers, but only 12% of the feed business. This is rather clear evidence that the type of customers which a feed marketing program attracts does make a difference.

Some large farmers are already in the feed business. The economic reality of the average farmer being in the feed business looms larger each year. With the increase in size of operation and the resulting mounting in size of the feed bill, it is only natural to expect that farmers will re-evaluate their alternatives for feed procurement.

The farmer of the past may have cared less about the costs which made up the price of a ton of feed. The farmer of tomorrow will break down transportation, dealer markup, etc., in his search for opportunities to effect cost savings. He may not be able to itemize all costs, but he will place an increasing burden upon you and your dealer to justify the functions you perform and the services you provide.

Services incidental to the sale of products to farmers have been employed for some time. Some have been mere gimmicks, while others have served a needed and vital role in the marketing program.

Services Cost Money

Almost without exception, services add to the cost of marketing. This, of course, should always raise the question as to whether the added cost of a proposed service can be justified.

As marketers we may think that a service has value, but does the farmer recognize its value? How much is the service worth per unit of product? Can the farmer be shown its value in dollars and cents? Can he get the service from you and the product from a competitor at a lower price? Will the competition immediately

(Turn to page 38)

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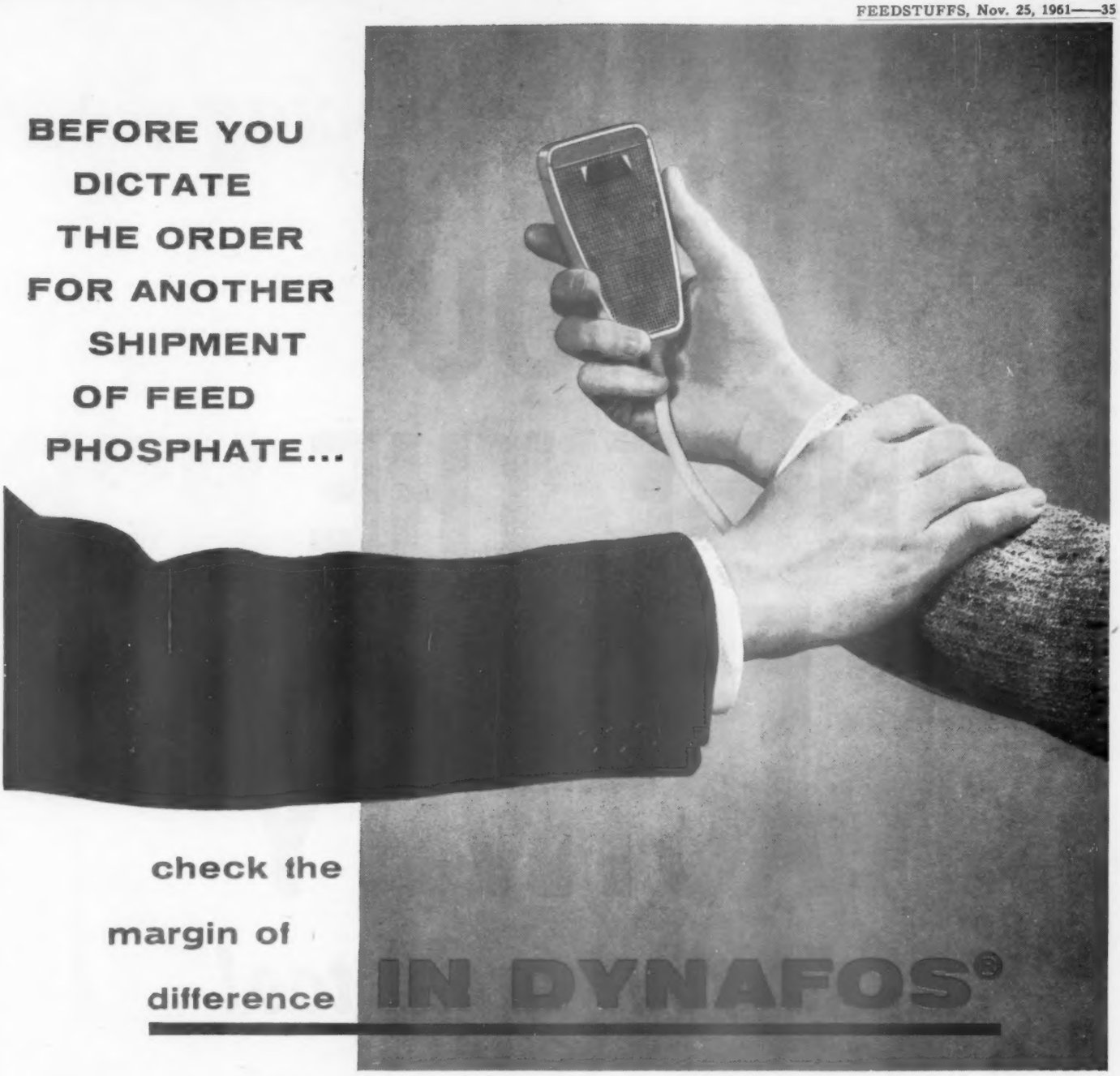

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TO EQUAL THE BIOLOGICALLY AVAILABLE PHOSPHORUS IN ONE POUND OF DYNAFOS.

*As compared to beta tricalcium phosphate reference standard

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. . . Lloyd Buis & Sons, Cloverdale, Indiana. *No custom mix services offered!* Second year of operation. Selling 2,300 tons of *complete feeds* per month—completely dominating the market in the sale of complete rations, grain purchasing, fertilizer and farm supply sales.

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The way we see it . . .

Orvel Cockrel
Director of Marketing

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Contact Orvel Cockrel, director of marketing, direct! Express your interest on your own letterhead. Your inquiry will be handled on an executive-to-executive basis . . . in complete confidence, of course. We have developed alternative plans . . . one of which can be tailored to your exact needs and preference.

HUB OPPORTUNITY AREA

HALES & HUNTER CO.

RED COMB PIONEER FEEDS

141 West Jackson Blvd.

Chicago 4, Illinois

PIONEER DAIRY FEEDS

PIONEER HOG FEEDS

RED COMB POULTRY FEEDS

ATTACH TO YOUR LETTERHEAD

To: Orvel Cockrel, Director of Marketing — Dept. FS-11
Hales & Hunter Co.
Red Comb Pioneer Feeds
141 West Jackson Blvd.
Chicago 4, Illinois

Yes, I am interested in discussing ways I can become a part of your expansion program and the HUB of feed sales activity in my area.

Name.....

Address.....

City.....*State*.....

adopt this service practice and neutralize any advantage?

Between the raw materials used in feeds and the actual on-farm feeding many services are performed — all of which should add value to the end product. Some of these are **highly scientific**, such as:

—Development and testing of feed formulas to create improved feeds.

—Determination of livestock nutrition requirements.

Some require considerable **training and experience or unusual facilities** to perform:

—Purchasing of best raw materials.

—Assembly of these materials in field warehouses.

—Formulating precisely balanced feeds, utilizing numerous micro nutrients.

Other services may require **no unusual facilities or experience** and hence may, theoretically, be performed by the end user as well as the middleman:

—Mixing ingredients to a predetermined ration, using supplements, premixes and concentrates.

—Delivery.

—Payment for product (the credit service).

—Warehousing at point of processing.

—Record keeping to determine results.

Industry's Contribution

It is in the first two service areas that the feed industry developed and has continued to make the greatest economic contribution to livestock agriculture.

The latter "service area" was assumed by the industry as it grew. To one extent or another the industry has continually been in competition with the feeder for the rewards of the economic contribution made by these services. (Here again, we must assume that every service performed between the raw material and the feeder must add value or it is parasitic.) Under the conditions where the feeder has not had the time, the know-how, the capital for equipment, or the inclination, he has willingly farmed these services out to his feed supplier.

In recent years a number of trends have developed which have changed the situation:

1. As specialization has taken place, farmers have learned more about fewer enterprises and are now more capable of mixing specific rations to specifications, from available micro ingredients, premixes and concentrates.

2. Capitalization of farms has taken place vertically rather than horizontally—farmers are tending to buy more production equipment rather than more land. Both lenders and borrowers of farm credit are becoming more oriented to the idea of investment in necessary on-farm mixing, storage and transportation to cut livestock production costs.

3. As farmers reduce the number of enterprises on their farms they have more time to devote to their remaining enterprises.

4. The severe cost-price squeeze has forced the farmer to examine all areas of farm expense. Hence, the natural inclination to "let the dealer fill the feeders" is now coming up for re-examination. Even so, most farmers will prefer, and should, to be first a livestock producer and not a feed manufacturer.

Future Customer

If you are looking for the feed customer who will be feeding the bulk of the livestock and poultry of the future, I think you might look for a man with these characteristics:

He will have a larger than average size operation or a small one rapidly increasing in size.

He will be well informed and, frequently, will have some college education.

He will be younger than average (25-40).

He will know his banker.

He will travel extensively as a part of his business.

He will be a "hard-nosed" businessman-farmer.

He will be too concerned about making money to take the advice of anyone for granted.

He will be a large and loyal customer as long as you can make him money, but will desert you when he can make more from someone else.

Those of us in agribusiness, if we are to serve a changing agriculture successfully, must recognize our basic purpose. Each firm must continually re-appraise its own resources and objectives in relation to the types of customers it has and expects to serve.

In the finaly analysis there appears to be no "all-encompassing" appraisal of the technical service needs of farmers. At best, it can be said that farmers will require the very minimum service necessary to enable the feed industry to serve its basic objective —that of providing proper and economic livestock nutrition.

The degree of service required will vary greatly from farm to farm. It thus becomes a matter of determining the best fit for resources of the farm and the feed firm—both are partners in the livestock business.

Questions I'm asked about

vitamin **D** *fortification*

Dr. G. C. Wallis, recognized authority in the field of Vitamin D₃ nutrition for livestock

Q: Will two to five pounds of good sun-cured hay provide enough vitamin D for my dairy cows?

A: No. Sun-cured hay varies widely and unpredictably in vitamin D content—80 units to 1,250 units per pound have been reported for sun-cured alfalfa hay. Two to five pounds of lower potency hay would provide about 200 to 500 units per cow per day which is insignificant. Even though the hay happened to be high in vitamin D, there would be only a modest contribution made toward the suggested optimum intake of 6,000 to 8,000 units per pound of dairy ration.

Q: How can I check to make sure my dairy cows are receiving enough vitamin D?

A: Good safeguards can be taken but an absolute check is probably not possible. Optimum vitamin D levels for top performance and longevity have not been clearly established but work is in progress. Mild deficiencies are often difficult or impossible to detect but they can be costly. Available information suggests the use of 6,000 to 8,000 units of vitamin D per pound of complete grain ration. Confidence in your feed manufacturer and the good performance of his well-formulated rations would be important for users of commercial feeds.

Q: Is there any danger of my feeds having too much vitamin D?

A: Our recommendations for the vitamin D fortification of feeds are well within the generally recognized safe limits of vitamin D intake for the different species of animals. With careful methods and efficient modern mixing equipment feed manufacturers are able to achieve good distribution of micro-ingredients. The chance of overdosage is remote.

Q: How much vitamin D do baby pigs and growing-finishing pigs need?

A: Early weaning, fast growth, confinement raising, multiple farrowing and other changes have greatly increased nutritional stress factors since the vitamin D requirements of pigs have been carefully studied. Based largely on amounts that have given good results in experimental and practical swine raising programs, a number of Experiment Stations are suggesting about 500 units of vitamin D per pound of milk replacer and starter with somewhat smaller amounts as pigs approach market weight.

Q: Do sheep get enough vitamin D from natural sources?

A: Not always. For instance, in recent English studies lambs from ewes given supplemental vitamin D averaged 6 pounds heavier at weaning in one flock and 9 pounds heavier in another than lambs from ewes given no vitamin D. Fleeces from experimental animals were more than ¼ pound heavier, graded higher, and brought a premium price.

A. C. Wallis

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

Fleischmann's Fidy Irradiated Dry Yeast
rich in vitamin D for four-footed animals

another fine product of
Standard Brands Incorporated

These educational advertisements tell farmers about

THE IMPORTANCE OF VITAMIN D FORTIFICATION

Sunshine and sun-cured roughages are undependable sources of essential Vitamin D. Farmers and feeders have many questions about Vitamin D fortification. The advertisement illustrated here (one of a series) shows how Dr. G. C. Wallis, recognized authority on Vitamin D nutrition, answers such questions through FIDY advertising in leading magazines.

It's all part of the educational FIDY program to emphasize that today's added stress factors have changed livestock nutrition requirements. More than ever, farmers must be sure that lack of a dependable Vitamin D source is not a limiting factor in their feed.

Be sure to fortify your feeds with FIDY—Fleischmann's Irradiated Dry Yeast. Here is a rich source of Vitamin D_3 that is dependable—and is economical, easy to use, and truly outstanding in dispersion qualities.

And, if your feeders have questions about Vitamin D nutrition, just have them address—

Dr. G. C. Wallis
Director of Nutrition,
Agricultural Department
Standard Brands Incorporated
625 Madison Avenue
New York 22, N. Y.

Free technical data, educational and sales aids are also available from the Agricultural Dept. upon request. Write for request form, showing available materials.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Sixth Analyses Award

SALEM, ORE. — James Launer, Salem, was named top in the nation for the 6th consecutive year for his work in analyses of commercial feeds for the Oregon Department of Agriculture.

The Association of American Feed Control Officials each year rates a group of laboratories on the basis of accurate analyses. For the first time, the Oregon laboratory and its feed chemist shared top honors with others. North Dakota and Curtis and Tompkin's, a commercial laboratory, were tied with Oregon for first place. Recognition was given at the national conference of the control officials in Washington.

FIDY
Distributors for Iowa, Nebraska, Kansas and Missouri
Carroll Swanson Sales Co.
Box 1034, University Place Sta.
Tel. CR 9-8881 Des Moines 11, Iowa

Supplying your
FIDY
needs in
Ohio - Indiana - Illinois
Michigan - Kentucky
Also Suppliers of Precision Premixes and Other Quality Feed Additives
DAVIS ENTERPRISES, INC.
Box 496 919 S. Perry St.
Tel. BA 2-6745 Dayton 1, Ohio

Midwest Firm Paying Broiler Growers 17c

In light of some of the accusations made during the recent congressional investigations into the broiler industry and the recent 9¢ per pound prices in some areas, a midwestern firm which is currently guaranteeing 17¢ per pound liveweight for broilers is attracting considerable interest.

The story of the firm, as it appeared in the November issue of American Poultry & Hatchery News, official organ of the American Poultry & Hatchery Federation, follows:

"Six years ago, three men in a Midwest town of 6,000 population formed a corporation to enter the broiler business. They have completely amortized all of their facilities since then and are presently guaranteeing their growers 17¢ lb. liveweight for broilers. If this isn't worth a story in the midst of today's chaos, then we have never had the opportunity of writing a story.

"Those who incorporated included: A hatcheryman, who is also a feed dealer; a former meat market operator; a farmer, who is also a trucker, and one of the growers in this operation. The hatcheryman supplies the chicks at 15¢ each and the feed at $2 ton over cost and services the growing birds. The former butcher is in charge of sales of the finished product and makes all deliveries. The farmer picks up the birds at the farms and delivers them to the processing plant.

"This operation has never had enough birds to meet demands and is never anticipating an expansion to change this situation.

"In setting up the corporation, with the slogan, 'Fed for Finer Flavor,' this group purchased a small processing plant and hired a manager to handle this operation. There are six growers, each of whom runs four groups of birds through his houses yearly, but who always has two different age groups.

3,000 Birds per Week

"The guarantee of 17¢ lb. to the growers went into effect Oct. 1, 1961, the first time since the operation started that it has been below 18¢. Production and processing amount to an average of 3,000 birds weekly, peaking during the summer months at 6,000 weekly. The average live weight is 3.3 lb., being produced in an average of nine weeks, with some lots making that weight in eight and one-half weeks. Winters in this area hit 30 below zero.

"Wholesale price has continually run higher than that of other broilers and retail price presently is 6¢ lb. above that of the highest priced competition. Each bird is identified with a metal tag inscribed with the firm's name. Wholesale outlets include restaurants, chain stores, private clubs, with the large demand in the summer being from drive-ins. This operation is serving a demanding customer who is willing to pay for a quality bird. The processing plant is not geared for speed but for a resulting quality bird in an acceptable pack. Wholesale birds are iced and packed 24 to the box. Chain stores featuring this bird have admitted that when they run out, they lose sales because the customer accustomed to this quality goes to another store to get it, even though the first store may have other broilers at as much as 15¢ lb. less.

"This operation does not want to expand, does not want to run anyone out of business; in fact, it would like to see others continue so there is a comparison to be made on a quality basis. The corporation alone netted 24% on its investment last year and is ahead of that figure this year."

Speakers Available to Grain, Feed Groups

KANSAS CITY, MO.—The Grain Processing Machinery Manufacturers Assn. has formed a speakers' bureau, it was announced by C. Robert Myers, president. Speakers will be available on topics of interest to grain and feed groups.

Mr. Myers, in discussing the service, said, "GPMMA members have a great wealth of information about our industries which we want to share with interested audiences. We who represent the machinery business are constantly striving to improve our equipment.

"This is ultimately reflected in our customers' increased plant operating efficiency. We believe groups who want to keep abreast of the rapid advances in handling, processing and storing of grains and feeds will want to hear what we have to say."

Speakers are available at no charge. For additional information, persons can write the association office, 400 West Dartmouth Road, Kansas City 13, Mo.

Jacobson QUALITY HAMMERMILLS AND FEED MILL EQUIPMENT

HEAVY DUTY
LOW PIT
DRAG FEEDER

Particularly desirable where dump pit is shallow or water is a problem.

Write for Bulletin and Name of Jacobson Representative

JACOBSON MACHINE WORKS, INC.
More than a Half Century of Service to the Feed Industry
1090 Tenth Avenue S. E. Dept. M Minneapolis 14, Minnesota

LONG AN EFFECTIVE KRAFT DOG FOOD SUPPLEMENT FOR ADDING NUTRITION AND APPETITE APPEAL...

KRAY-9 IS NOW A COMPLETE PET FOOD PREMIX!

Today's Kray-9 can improve more *kinds* of pet foods in more *ways* than ever before! Use Kray-9 Premix to make foods for all kinds of pets—dogs, cats, hamsters, rabbits—even for commercial mink or laboratory and zoo animals. And Kray-9 is now a *complete* premix which supplies the high-quality proteins, essential vitamins, minerals and unidentified growth factors your pet foods require. So you handle and inventory fewer ingredients . . . make more profit. **You get:** Added vitamins, 8 of them—A, D, E, riboflavin, niacin, thiamin, pantothenate, choline—all important for health and growth. Added minerals—calcium and phosphorus. Trace elements—copper, iron, manganese, cobalt, iodine and zinc. **Plus:** Superpalatability and nose appeal—thanks to cheese rind, buttermilk, and special flavor ingredient. Proteins (lactalbumin and casein) rich in essential amino acids—from dried whole whey, dried buttermilk, delactosed whey and cheese rind. **Plus:** The bonus you receive with *every* Kraft Foods product—superior quality and uniformity. Ask your Kraft man for full information *and a free sample.*

KRAY-9 milk by-product premix for pet foods by KRAFT

The same people who bring you Velveeta cheese spread and Miracle Whip salad dressing

KRAFT FOODS AGRICULTURAL DIVISION • Chicago • New York • Garland, Texas • San Francisco

AIR OPERATED VALVES

Slide Type

Shelby

2 way valve

Increase efficiency with these labor-saving air valves.

3 way valve

Shelby's "Rapid-ACTION" air valves come in slide type, two or three way with manual or push button controls. Valves can be installed with ¼ in. vinyl tubing from compressor.

THE SHELBY MANUFACTURING CO. • SIDNEY, OHIO

PRINCESS AND THAILAND GUEST—Londa Jane Boyd, newly crowned poultry princess of the 14-state Northeastern Poultry Producers Council, is shown in this photo greeting Vithoon Doshanand of Thailand at a banquet held by Whitmoyer Laboratories, Inc., Myerstown, Pa. C. W. Whitmoyer, president of the company, second from left, and Dr. J. R. Wiley, director of development and technical services, right, are looking on. Miss Boyd and Mr. Doshanand were guests of honor at the banquet. Miss Boyd was sponsored by the Whitmoyer firm in the poultry princess contest at the NEPPCO exposition in Harrisburg, Pa., and Mr. Doshanand heads the Animal and Agricultural Development Co., Bangkok, which distributes Whitmoyer poultry and animal health products in Thailand. The banquet was held in conjunction with a recent session of the Whitmoyer Poultry Health and Nutrition School at Myerstown, Pa.

USE LARGER GRAN-I-GRIT GET LARGER PROFIT$

Daily results on the farms of Egg Producers, Broiler Growers and Turkey Raisers are proving that ALL THREE get better results from feed by using GRAN-I-GRIT'S New Grit Feeding Program of feeding larger sizes of grit, from Start to Finish.

LARGER SIZES OF GRIT not only grind feed finer and more efficiently in the gizzard, but keep the digestive tract open for full feed utilization by completely grinding feathers and fibrous litter that all birds eat.

By informing your customers of GRAN-I-GRIT'S New Grit Feeding Program, you can show them HOW TO MAKE MORE MONEY FROM YOUR FEED, which in turn will stimulate your sales and profits.

FREE Circular Gives Full Details

Fill out the coupon today for a Free copy of this circular. GRAN-I-GRIT is packed in 25, 50 and 80-lb. multiwall paper bags and in 10-lb. Self-Feeding Packs that save valuable storage space.

We have a new GRAN-I-GRIT circular that gives full details on the New GRAN-I-GRIT Program of feeding larger sizes of grit . . . the Program that is proving so successful today.

NORTH CAROLINA GRANITE CORPORATION
Member of Granite Grit Institute of America
MOUNT AIRY NORTH CAROLINA

Kindly mail us at once your New Circular on your New Program of Feeding Larger Sizes of Grit

Name .....
Street or R.F.D. .....
Town ..... State .....

THE GRIT WITH THE SHARPEST GRINDING EDGES EVER CUT

Whitmoyer Holds Its 82nd Poultry School

MYERSTOWN, PA. — Whitmoyer Laboratories, Inc., here, has held its 82nd Poultry Health and Nutrition School.

Attending were 36 students representing various phases of the poultry and feed industries, according to Whitmoyer representatives. The lectures and demonstrations attracted the students from 10 states, two Canadian provinces and Bangkok, Thailand.

Modern education aids were utilized to cover a wide range of subjects including nutrition, management, external and internal parasites, bacteriology and disease recognition and control, a Whitmoyer spokesman said.

Georgia Feed Assn. Schedules Convention

ATLANTA — The Georgia Feed Assn.'s 1962 convention will be in St. Petersburg, Fla., July 13-17. Meetings will be at the Tides Hotel on St. Petersburg Beach.

Distributor Named

MILLVILLE, N.J. — The George Knox Poultry Service, Bethany Beach, Delaware, has been appointed a distributor for the complete line of Keenco Automatic Poultry equipment, it was announced by Everett M. Keen, president of Keen Mfg. Corp.

Among machinery available through the Knox Service will be the Keenco F-70 Automatic Poultry Feeder, automatic egg collectors, mechanical manure removers, automatic waterers and certified ventilation. Equipment and plans for Keenco fully-automated poultry houses will also be offered.

The Keen Mfg. Corp., established in 1934, recently opened new, 110,000 sq. ft. factory and office facilities in Millville.

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

NOW! use nf-180 to increase pig feed tonnage

nf-180 - - already proved effective against scours in farrowing and treatment feeds - - can now improve the performance of prestarter, starter and grower feeds

What's the most serious problem hog raisers have to face—pneumonia . . . cholera . . . atrophic rhinitis . . . internal parasites? No. In a nationwide survey completed in October, 1961, hog men rated *scours* their most costly and worrisome problem . . . by far.

The reason: most drugs promising scours control just can't cope with the increasingly frequent and increasingly severe scours outbreaks plaguing hog raisers today. Germ resistance to antibiotics, sulfas and arsenicals is one of the problems.

And, unless positive steps are taken, scours losses can be expected to get even worse. That's because the increased seriousness of scours appears to go hand-in-hand with modern hog raising methods. Continuous use of farrowing and feed-out facilities . . . larger herds . . . confinement feeding . . . widely scattered sources of breeding stock and feeder pigs . . . all place increased stress on young pigs and complicate sanitation and health programs.

The one answer: nf-180

During the last three years, nf-180 has proved itself the one drug that stops scours practically without exception . . . even where other products fail. Up to now, nf-180 has been used three ways:

First, it was used as an in-the-feed treatment by farmers who were on the brink of being forced out of the hog business by scours. And nf-180 worked!

Second, a liquid form of nf-180 for oral administration to suckling pigs was introduced early in 1960. It worked, too. *nf-180 Suspension* quickly became the fastest-selling product of its kind.

Hess & Clark introduced a third use of nf-180 for swine in the spring of 1960. It was a new concept in scours protection — *treating the pregnant sow to protect the baby pigs.* This program breaks the scours infection cycle by killing scours organisms in the sow's intestine . . . prevents scours germs from being transmitted to the newly farrowed pigs. Today, nf-180 is more widely used in farrowing rations than any other medication.

New! nf-180 cleared for pig feed

Now you can take advantage of nf-180's reputation for scours prevention by adding it to your prestarter, starter and grower feeds.

Medicated with nf-180, your pig feeds will cut scours-caused mortality in young pigs . . . reduce stunting and unthriftiness . . . help customers wean more and bigger pigs. Your nf-180-medicated pig feeds will, for the first time, end the worry of pig scours . . . reason enough for customers and prospects to buy your program over competition.

But you needn't limit this demonstration of extra feed performance to farms with severe scours problems. You can also use nf-180-medicated feeds to improve performance of apparently good-doing pigs. Actually, pigs are seldom 100% healthy. They are almost always held back by "hidden" scours problems which cause pigs to go off feed . . . roughen up and slack off in growth after weaning, castration and other stresses. nf-180 clears up this low-level disease drag . . . helps your feed make good-doing pigs do even better.

For details on 2 ways nf-180 can help you increase hog feed sales, turn the page ▶

nf-180 helps you outsell competitive pig feeds these 2 important ways

1. Helps you convince prospects to try and compare your pig feeds

The first step in selling a hog feed prospect is getting him to try your feed. nf-180 helps make this job easier in several ways:

DEALER ENTHUSIASM — Hog raisers who try nf-180-medicated pig feeds see visible results. They become enthusiastic boosters . . . and this spirit rubs off on dealers. And an enthusiastic dealer can't help but be a better salesman for you.

REPUTATION OF nf-180— nf-180's reputation for delivering dependable results as a scours treatment and in the farrowing ration is an established fact. This makes it easier for you to sell the extended protection of nf-180 in prestarter, starter and grower feeds.

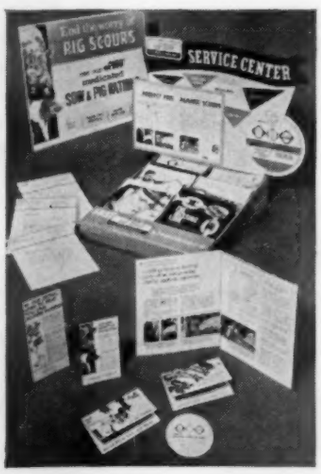
MAGAZINE, RADIO ADVERTISING — This spring your customers will hardly be able to open a farm or hog magazine without seeing an advertisement for nf-180-medicated pig feeds. And these information-packed nf-180 ads really sell. One dealer wrote, "This is the most effective advertising we have seen for many years. It really has brought customers to the mill."

Backing up this magazine advertising are nf-180 radio announcements on 30 stations in 10 midwestern states.

LOCAL SELLING HELPS — Hess & Clark provides all the local promotional help you need to sell nf-180-medicated pig feeds. Included are posters, handout pieces, mailers, counter displays.

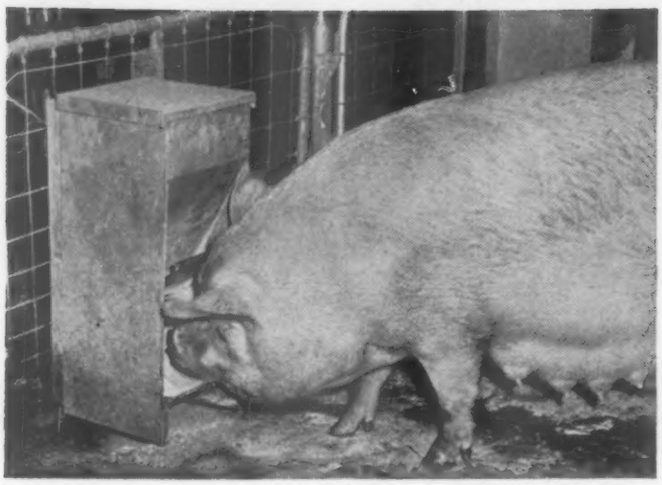
FARMER MEETINGS—These can be the best selling vehicles of all. Make them more effective than ever with a full-color sound slide film and a 13½ minute, 16 mm. color film on nf-180 medicated swine feeds.

EFFECTIVE ADVERTISING — In a farm magazine survey of 1,100 feed dealers, 55.7% of the dealers reported direct inquiries from nf-180 advertising . . . 53.4% reported definite prospects for future feed sales.



LOCAL SELLING HELP — Posters, mailers, informative handout pieces and the nf-180 Service Center for store counters help dealers identify with and sell nf-180 feeds.

PEP UP FARMER MEETINGS — Two full-color films help you sell nf-180-medicated pig feeds: a sound-slide film entitled "The Missing Link" . . . and a 16 mm. movie, "And This Little Piggy Had None."



FIRST, BREAK THE SCOURS CYCLE — A solidly established way to protect newborn pigs from scours is to feed an nf-180-medicated sow feed one week before and two weeks after farrowing. nf-180 kills scours organisms in the sow's intestine . . . prevents them from being carried into clean pens and infecting the pigs.

NOW EXTEND nf-180 PROTECTION — New nf-180-medicated creep, starter and grower feeds now enable hog raisers to protect pigs against scours through the critical early growth period. Sell an nf-180-medicated pig feed to help your customers reduce stunting, cut mortality, improve feed efficiency right from the start.

2. Gives your pig feeds an edge in feeder comparison tests

Once you get a prospect to try nf-180-medicated pig feeds — especially a prospect with a scours problem in his herd — you can almost be sure of a faithful customer for a long time to come.

The reason: your nf-180-medicated pig feeds prevent scours problems that won't yield to any other kind of starter feed. Even on farms where scours is not severe or even apparent, nf-180 helps hog raisers wean more and bigger pigs.

For best results, recommend that hog raisers start with an nf-180 farrowing feed and follow with your nf-180-medicated pig feeds. Either program used alone, however, will show profitable results.

BREAK THE SCOURS CYCLE with your sow farrowing feed containing 150 grams furazolidone (nf-180) per ton. Fed one week before and two weeks after farrowing, an nf-180 sow feed kills scours organisms in the sow's intestinal tract . . . prevents them from being carried into clean pens and transmitted to the baby pigs.

CONTINUE PROTECTION by following with your nf-180 pig feed as soon as pigs begin to eat. nf-180 will protect against scours, reduce stunting, speed gains and improve efficiency during the critical early growing period . . . when differences in feed performance really stand out.

These men gave nf-180 a trial . . . now insist on it

Cliford Branstad | John High | Ken Kirby | Bernard Kisch | Howard Riley

TYPICAL RESULTS FROM INTERVIEWS WITH nf-180 USERS

	before nf-180 feeds		after nf-180 feeds		
	pigs farrowed per sow	pigs weaned per sow	pigs farrowed per sow	pigs weaned per sow	comments
Cliford Branstad Thompson, Iowa	11-12	7	11-12	9	"Scours isn't nearly the problem it used to be."
John High Rockford, Ohio	12	9	12	9	". . . far less stunting and setbacks."
Ken Kirby Prospect, Kentucky	10	5	10	10	". . . marketing pigs 2-3 weeks earlier."
Bernard Kisch Charles City, Iowa	9-12	6	10	8.5	". . . weaning weights considerably higher."
Howard Riley Charlotte, Michigan	8	7.5	10.2	10	". . . pigs are 5 lbs. heavier at weaning."

Give an nf-180-medicated pig starter feed a try during the early farrowings this spring. Judge for yourself if it isn't just what you need to stimulate hog feed sales.

nf-180®
Brand of furazolidone

HESS & CLARK
ASHLAND, OHIO
Division of Richardson-Merrell Inc.

NT-1-11

Dannen's experienced sales staff (above) keep in touch with markets everywhere.

Dannen Mills, Inc.-feed stuff buyers, sellers and processors since 1925.

Call for ■ soybean meal, ■ all grains, ■ rolled oats, ■ oat mill feed, ■ packers products, and other feed ingredients.

Phone Adams 3-6161, St. Joseph, Missouri

Dannen Mills, Inc. / Grain & Jobbing Division

DANNEN

Feed Dealers of Ontario to Meet

TORONTO, ONT.—The program has been set for the Dec. 6 annual meeting and convention of the Ontario Retail Feed Dealers Assn. at the King Edward Hotel, Toronto.

Keynote speaker will be Dr. Charles E. Irvin, specialist in sales and business management training and author of several best sellers in the self-development and sales promotion field.

Oakley M. Ray, director of market research, American Feed Manufacturers Assn., will present findings of a survey evaluating economic trends developing within the feed industry. G. W. McNern, manager of Norfolk Cooperative Co., Ltd., Simcoe, will speak on "Increasing Your Operational Efficiency."

C. W. Carr, editor and publisher of Ottawa News Letter, will report on legislative measures and industry affairs affecting the national economy, and Ralph K. Bennett, chief, merchandising section, livestock division, Canada Department of Agriculture, will give a livestock round-up report.

Illinois Agricultural Industries Forum Set Jan. 30-31 at Urbana

URBANA, ILL.—Speakers who will discuss economic growth for local communities will open the general session of the fourth University of Illinois Agricultural Industries Forum Jan. 30-31 at the University of Illinois, Urbana.

Scheduled to speak at the opening session are Dr. Vernon Ruttan, professor of agricultural economics, Purdue University, Lafayette, Ind.; Anthony Downs, Real Estate Research Corp., Chicago, and Mrs. Aryness Joy Wickens, economic adviser in the U.S. Department of Labor.

H. E. Gulley, University of Illinois professor of speech, and Dr. A. V. Nalbandov, professor of animal physiology, will address other general sessions.

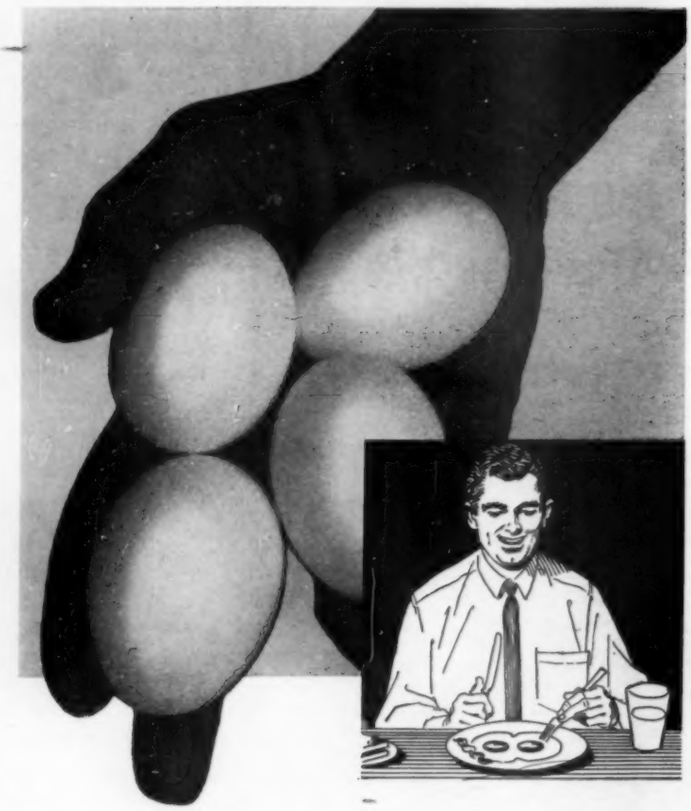
Special sessions for those interested in marketing dairy products, livestock, grain, poultry and eggs, feed, fertilizer and farm machinery and equipment are scheduled for the afternoon of Jan. 30 and the morning of Jan. 31. Outstanding speakers are planned for these sessions, according to Dr. Harold G. Halcrow, head of the agricultural economics department, University of Illinois.

Scientist Will Report

ATHENS, GA.—University of Georgia research scientist, Dr. Hardy M. Edwards, Jr., will report in Mexico City, Mexico, to an international conference in November on a three year study of the effect of calcium and phosphorus levels in the diet on magnesium metabolism in chickens.

The conference, to be attended by specialists in animal biology and the medical sciences from all over the world, will be concerned primarily with the use of radioisotopes. It is a joint project of the International Atomic Energy Agency, the Food and Agriculture Organization of the United Nations and the World Health Organization.

The research work, conducted under a contract between the university and the U.S. Atomic Energy Commission, has as a basic problem determining where and how in the animal body large quantities of calcium and phosphorus in the diet interfere with the metabolism of magnesium. The work has involved dietary manipulation of poultry rations, experimental surgery upon chickens and various techniques of injecting the radioisotope and procuring samples at various sites in the animal body.



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NEW CANADIAN MILL—The Pioneer-Cafeteria feed mill pictured here was opened at Ste. Foy, Quebec, recently by Pioneer-Cafeteria Feeds, Ltd., Toronto, Ontario. The mill is said to have the most modern equipment. The mill was built because of expanded livestock and poultry production in Quebec and in anticipation of further production increases, the company stated.

Pioneer-Cafeteria Opens Ste. Foy Mill

STE. FOY, QUEBEC — The new Pioneer-Cafeteria feed mill at Ste. Foy was officially opened Nov. 9. Several hundred farmers and feed dealers made a tour of inspection along with agricultural and civic officials and representatives of the railways and the Quebec Industrial Development Board.

The new mill is said to be equipped with the most modern and up-to-date equipment. The owners say that any normal size order for any kind of feed can be turned out within a few hours, making it possible to deliver all orders promptly.

A special feature is the arrangement for handling both inward shipments of ingredients and outward shipments of finished feed in bulk, thus reducing manufacturing costs, the mill's management pointed out.

It is anticipated, officials state, that more than half of the new mill's output will be delivered to feeders' premises in bulk.

Jacques deBroin, general sales manager of Pioneer-Cafeteria, stressed the growing importance of livestock and poultry production in the province of Quebec. Between June 1, 1960, and June 1, 1961, he said, the poultry population of the province increased 17%, the hog population increased 15% and the number of cattle increased 1½%.

The mill at Ste. Foy, he said, is evidence of his company's faith in the continued growth of Quebec's agricultural industry and recognition of the need for decentralization of feed manufacturing operations, to provide quicker and more efficient service to feeders than has been possible in the past.

Pioneer-Cafeteria Feeds, Ltd., has its head office in Toronto, Ontario.

Southeast's Broiler Credit Declining, But Still Ahead of 1960

ATLANTA—Trade credit and bank loans for broiler production in the Southeast continued their month-to-month declines of this year from August to September, but, as has been the case most of the year, September outstandings of credit and loans exceeded year-earlier levels by substantial margins.

The Federal Reserve Bank of Atlanta shows in its latest monthly survey that a 6% decline occurred from August to September in trade credit outstandings for broiler production at a sample of feed manufacturing firms in Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee. Producer accounts were curtailed by 11% compared with a 5% cut in dealer accounts.

Even though trade credit outstandings were reduced during September, dealer accounts remained 22% above a year earlier and producer accounts continued 14% ahead of a year earlier.

The volume of new broiler loans made by selected banks was recorded at $1,698,000 for September, down 20% from August but up 225% from a year earlier. Bank loan outstandings at the end of September amounted to $2,086,000, 5% under a month earlier, but 22% ahead of a year earlier.

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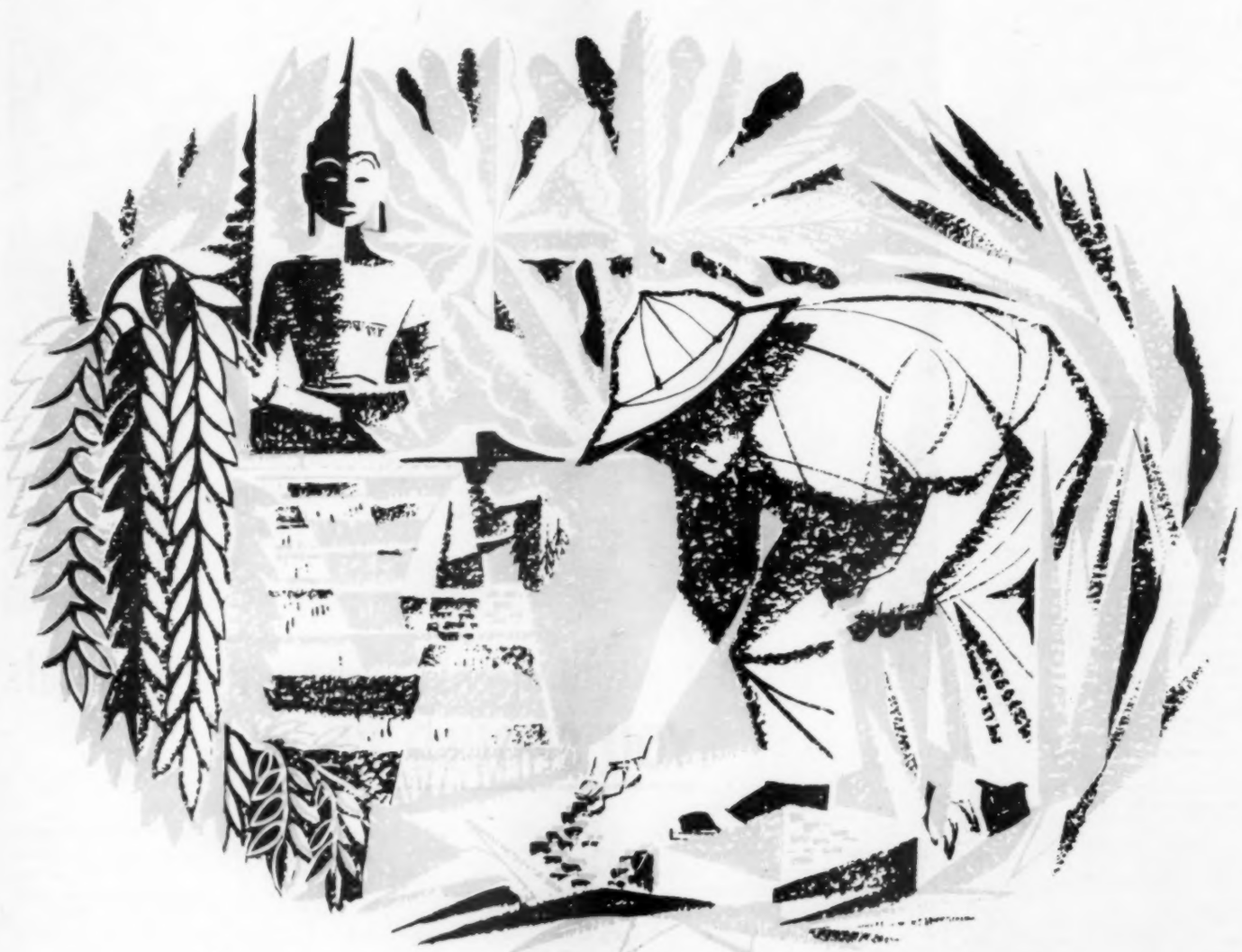

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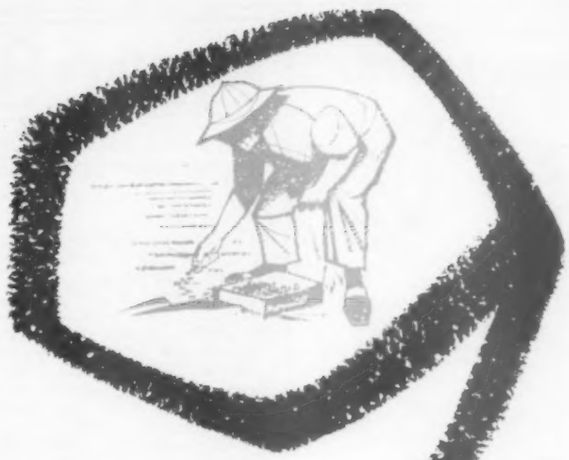
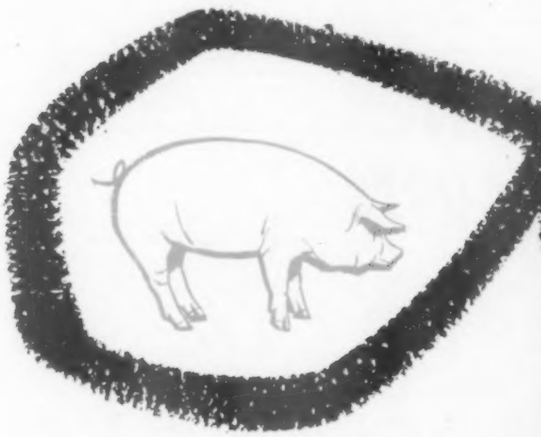


From a Missionary in Thailand: The Discovery of TYLAN

Among thousands of soil samples sent to the Lilly Research Laboratories from all over the world, one, collected by a medical missionary from a rice paddy in Thailand, contained a new antibiotic which immediately showed great promise for agricultural use. It was called Tylan and proved to be a gain booster for swine.



On-Farm Tests Show Hogs Gained an Extra 12% on 2% Less Feed

Field trials were conducted on farms in four cornbelt states. These feeding trials involved approximately 1,500 hogs. Average increase in daily gain (to 200 lbs.) by the hogs fed Tylan in the ration was 12% over similar numbers of hogs not fed Tylan in the ration. The Tylan-fed hogs also experienced a 2% increase in feed efficiency when fed for an equal period of time. If both groups had been fed to equal weights, the efficiency advantage would have been greater for Tylan. Average increase in daily gain covering the period up to 50 pounds was 21%, and . . . up to 100 pounds was 17%.

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On a sprawling 600-acre farm near Greenfield, Indiana, the Lilly Research Laboratories are constantly seeking new ways to improve animal health and production. Working closely with Elanco Products Company, their research scientists are conducting experiments in four important fields—animal nutrition, veterinary medicine, insecticides and pesticides, plant nutrition and diseases.

One result of this teamwork was Hygromix for the control of worms in swine and poultry. Still another is Tylan – new gain booster for swine.

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Letters to the Editor

IOWA TURKEY MAN OPPOSES CONTROLS

Corydon, Iowa

To the Editor:

I want to compliment you on your good coverage of feeds and feeding, especially turkeys.

I have been in the turkey producing and hatching business for over 30 years. My son and I operate a turkey and cattle ranch. We raise around 75,000 bronze turkeys and keep around 500 Hereford cattle and also have a feed mill and turkey hatchery.

We are opposed to turkey controls. They won't work any better than the grain control programs.

In your Nov. 11 issue under "Egg, Broiler Turkey Situations" the U.S. Department of Agriculture is quoted as saying the intentions to keep turkey breeder hens are only 3% under those kept for 1961 eggs. We are all hurt, and we are all scared in the turkey business. I know of a hatchery in Minnesota that exaggerated 25,000 hens when filling out the survey blanks, also one in Iowa that stepped up the number 7,000. It is my opinion that the intentions to keep turkey hens is long by 25%. Egg producers this time did this to frighten each other into holding down numbers. A lot more producers were misleading when giving intended numbers, because of the price disaster.

Following is a letter sent to our turkey growers:

"I thought I would report the turkey situation in this area as I see it today. I have talked with the sales managers of five major feed companies. They plan no guarantees for 1962, no feed to be sold on credit except to people whose financial statement indicates they can pay for it. All bad operators are eliminated. They are all expecting a big cut in turkey feed tonnage. Feed salesmen don't know what to tell turkey growers now. Everyone is sick, including the merchants in this turkey community.

"I know of six growers who raise around 50,000 birds, who, I am sure, will stay out for one year, or until they get their 1961 turkey feed notes paid. A number of growers are planning on one flock instead of two. Several plan more efficiency by cutting down 25% on the number of birds going through their equipment.

"Turkey raising around here has and is taking a terrible beating. There will be a big cut back here. Caution is not the proper word, we are all scared of going broke, and some are broke now.

"We don't need reduction pledges or enabling acts; the law of supply and demand is working. We know Jan. 1 storage holdings will be one half the nation's 1962 needs.

"The feed companies are in favor of an enabling act. If it works (which I doubt), it would guarantee them their profits.

"A two-thirds majority vote of turkey growers will make the controls a law, and two-thirds majority vote will eliminate the controls. But, who ever heard of eliminating government jobs? Think of the evils of socializing-communizing the turkey industry.

"Hogs were 10¢ lb. four years ago and have been very profitable each year since; supply and demand works.

"This turkey situation is different from the chicken broiler deal; however, the broiler deal is starting to get well. It takes a lot of money to finance both of them. Men who control big money are not dumb.

"This turkey price situation will be remembered longer than the 1948 high prices.

"The turkey deal has been good for many years because it was on a supply and demand basis.

"My plans are to fight any kind of turkey controls all of the way."

Homer Grismore
HD Turkey Ranch & Hatchery

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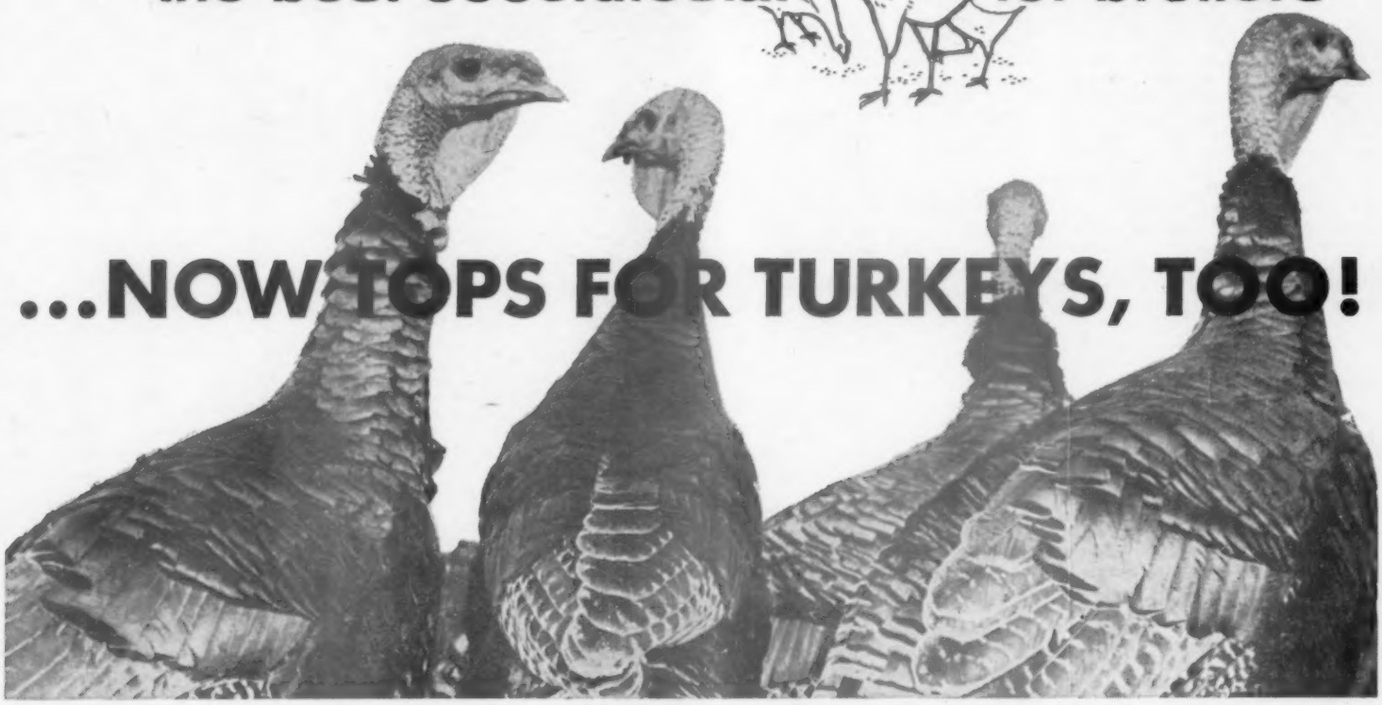

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AMPROL is especially effective against mixed infections which are so common...and costly... in turkey flocks.

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AMPROL gives full coccidiostatic activity... coccidia have not been shown to develop resistance to this coccidiostat, yet it is well tolerated at many time the recommended use-level and is nontoxic to farm animals.

AMPROL has excellent blending properties... is easy to use in your mill.

Add AMPROL to your feeds to give your turkey-grower customers the most coxy protection for their money!

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Influence of Pelleting On the Energy Value of Poultry Diets

"Studies on the basis of the growth response of birds fed pellets have led to the conclusion that it is primarily due to the increased available energy."

By Dr. Leo S. Jensen
Washington State University

A considerable portion of all poultry feed sold in this country is in the form of either pellets or crumbles. Most of us have assumed formulas of feed to be fed in the pellet form should be the same as formulas of feeds to be fed as mash. Yet, it has been known for many years that birds fed pellets grow faster and convert their feed more efficiently than birds fed the same feed in mash form. Because the pelleting process has such an important place in the feed industry, it is important to study its influence on nutrient utilization and to determine the reason for its effect on growth in animals.

A few years ago in our laboratory, studies were undertaken to determine effect of grinding pellets on growth. (1, 2.) A significant growth response was still obtained even when the pellets were ground to a particle size and density similar to the original mash. It was concluded that a part of the pelleting response could be attributed to a chemical or non-physical change by the processing procedure. Even though a statistically significant growth response was obtained by feeding ground pellets, a much greater response was obtained by feeding the whole pellets. The greatest part of the pelleting response, therefore, is probably due to an increase in density of the nutrients.

It is conceivable that a difference exists in the rate of passage of mash and pellets through the digestive system of a bird. Pellets may pass through at a slower rate, thereby allowing more complete digestion and absorption of the nutrients. This possibility was investigated (3) by placing an indicator (chromic oxide) in both mash and pellets and measuring the time of appearance of the indicator in the excreta. The birds were given the feed containing chromic oxide for a two hour period. All excreta produced per pen of birds per hour for 10 hours after giving the indicator feed were collected and analyzed for chromic oxide content. Little difference between birds fed mash and pellets was observed in rate of appearance of chromic oxide in the excreta. If anything, the indicator appeared to pass through the birds more rapidly when fed pellets than mash. It was observed that the peak excretion of chromic oxide appeared between the fourth and fifth hour after the feed was first placed before the birds. However, some indicator was detected within the first hour and it was still being detected up to 10 hours after the initial feeding. The results of these studies seem to rule out rate of food passage as a factor in the pelleting response.

Eating Patterns

To study further the basis for the growth response to pelleting, it was decided to observe the eating patterns of individual birds fed pelleted and unpelleted rations. This was done by placing birds in individual pens and observing the number of times each bird went to the feed trough, how much feed was consumed at each "meal" and how much time was spent in eating the "meal." (3.) Individual birds were observed for a 12-hour period on two consecutive days. Prior to the start of observations and at the end of the first 12-hour period, lights were turned off and the feed was removed from the pens. A summary of the results obtained with both poults and chicks is in Table 1. Little difference was observed in the number of "meals" consumed by birds fed mash or pellets. But a considerable difference in the amount of time spent eating per meal was recorded. Poults fed mash spent almost 19% of the 12-hour day at the feed trough, moving their head up and down in the process of eating. Poults fed pellets spent only 2.2% of the day eating. The difference was not quite as marked with chicks but was in the same direction (mash, 14.3% of the day and pellets, 4.7%).

It was interesting that the birds fed mash and pellets consumed about the same quantity of feed during a 12-hour period. Some investigators (4) have concluded that the increased growth response to pelleting is due primarily to increased consumption of feedstuffs. The birds selected for the feeding pattern studies were similar in body weight prior to the start of the observation. If anything, the birds fed mash consumed slightly more feed per day than those fed pellets. Therefore, increased feed consumption does not appear to be the basic explanation for the superior growth of pellet-fed birds.

Observations on feeding patterns suggested that the tremendous difference in time of prehension of feed might be an important factor in the difference in growth rate. Certainly this process requires energy. Birds fed mash may expend a greater proportion of the energy available in their feed for eating and, therefore, have less available for growth.

If there is a marked difference in the amount of energy expended for prehension of food, one would anticipate a difference in productive energy (PE) between pelleted and unpelleted feeds. PE is a measure which approximates the actual energy available for synthesis of fat and protein under a given set of conditions. It was, therefore, decided to measure both the PE and metabolizable energy (ME), of the same feed in mash and pelleted form.

Determination of the ME content was done by the method of Hill and Anderson. (5.) A typical corn-soy diet was used. Results of three separate experiments are summarized in Table 2. ME content of the pelleted ration was significantly greater than that of the mash ration in all three experiments. The average increase was 44 Calories per pound.

Digestibility of Ether Extract

In other studies it had been found that digestibility of the ether extract of rations was improved by pelleting. Because ME is largely a reflection of digestibility, it is possible that the higher ME for pellets was due to increased availability of fat. Investigators working with ruminants have observed an improved digestibility of ether extract of pelleted alfalfa meal. (7.) Recent studies at Cornell have also shown that pelleting diets containing ground, heat-treated soybeans improved the utilization of the soybean oil in the ground soybean. (8.)

The fact that ME content of pelleted diets is slightly increased over non-pelleted diets may explain the small significant responses obtained by feeding ground pellets to chicks. One would then anticipate an increase in ME content of a pelleted feed fed in the ground form. In two experiments, no increase in ME was observed for ground pellets, while the same feed in whole pelleted form had a significantly higher ME content. A ready explanation for this is not apparent.

Determination of PE was made by the method of Fraps (9) and results obtained are shown in Table 2. It is obvious that the PE value of the same feed fed in pelleted form was considerably higher than that fed as mash. This is what was anticipated from the observations on the feeding patterns of individual birds. It appears, therefore, that the growth response to pelleting may be caused by the increased energy of the feed available for production.

TABLE 1. Observations on the Eating Patterns of Poults and Chicks Fed Mash and Pellets

Form	Average age (days)	Average time at feeder per day	Time spent eating per day (min.)	Feed consumed per bird per day (gm.)
Broad Breasted Bronze Poults—				
Mash	42	19	136	62
Pellets	42	24	16	57
New Hampshire Chicks—				
Mash	25	35	103	38
Pellets	25	27	34	37

TABLE 2. Effect of Form of Feed on Available Energy Content

Form	Metabolizable energy content (Cal./lb.)* Exp. 1	Exp. 2	Exp. 3	Productive energy (Cal./lb.)*
Mash	1574	1586	1515	817
Pellets	1628	1617	1560	1067

*Dry matter basis.

TABLE 3. Effect of Pelleting on Growth of Broad Breasted Bronze Turkeys Fed Different Levels of Protein

Protein (%) 8-12 wk.	12-16 wk.	16-20 wk.	Form	Average weight at 20 weeks (gm.) Males	Females
20	18	16	Mash	7873	5604
20	18	16	Pellets	8118	5890
18	16	14	Mash	7841	5701
18	16	14	Pellets	7879	6113
16	14	12	Mash	7402	5758
16	14	12	Pellets	6999	5387

Dr. Leo S. Jensen

AUTHOR—Dr. Jensen, the author of the accompanying article, is associate professor and associate poultry scientist in the department of poultry science at Washington State University, Pullman, Wash. Dr. Jensen received his bachelor of science degree from Washington State University in 1949 and his Ph. D. degree from Cornell University in 1954.

Nutrient Requirements

It is well known that the nutrient requirements of animals (as expressed per unit of feed) are related to the available energy in the ration. The Calorie-protein ratio is now always considered in the formulation of poultry feeds. Could it be then that the nutrient requirements expressed per unit of feed are higher for birds fed pellets than for those fed mash? If protein is required per unit of available energy and the available energy is higher in pellets than in mash, a higher percentage of protein would be needed in pelleted feeds. This would be true for most all other nutrients because they are also required in relation to the energy content of the ration.

Results obtained in an experiment conducted with developing turkeys in our laboratory last summer indicate that this may very well be the case. (10.) The turkeys were fed different protein levels from 8 to 20 weeks of age in both the mash and pelleted forms. As shown in Table 3, a consistent response to pelleting was obtained with the birds fed the two higher levels of protein. However, birds fed the lower level of protein in the pelleted form were markedly lower in weight than the corresponding birds fed mash.

It is to be expected that there would be considerable variation in the difference in available energy between the same feed fed in mash and pelleted form. One important factor would be what the birds do between "meals." The birds in our experiments kept in individual pens and also in battery brooders generally rested on the floor of the pens when not eating. Birds kept in floor pens or group cages might expend more energy in non-eating activities. One would also not expect as big a difference in available energy if the pelleted feed was fed in the crumbled form or in a pelleted form with a large percentage of fines.

Nevertheless, from the results presented here, it appears that form of feed should be taken into consideration when determining nutrient requirements of birds. Practically all studies of the nutritive requirements of poultry are done with unpelleted feeds. It would seem that in the future, such studies should be made with pelleted feeds as well as unpelleted feeds if the requirements are intended for practical recommendations.

In recent years there has been

some controversy on the protein requirement of laying hens for maximum performance. Could part of the explanation for the differences in requirements lie in the form in which the feed was fed? It has also been a common observation that laying hens fed pellets tend to accumulate more body fat than birds fed the same feed in mash form. Is this related to an imbalance of the Calorie-protein ratio? Is the calcium intake problem in laying hens accentuated by feeding pellets or crumbles? These are some of the questions that can be answered only by further experimental work.

SUMMARY—Studies on the basis of the growth response of birds fed pellets have led to the conclusion that it is primarily due to the increased available energy. Metabolizable energy content of pelleted rations was slightly higher than that of unpelleted rations, which may have been caused by an increased availability of the ether extract. A marked increase was observed in productive energy content. It is suggested that the nutrient requirements of poultry (expressed per unit of feed) may be higher for birds fed pellets than for those fed mash.

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Central Soya Begins Operating Ohio Unit

BELLEVUE, OHIO—Final agreements have been signed, and the soybean processing plant here purchased by Central Soya from Spencer Kellogg Division of Textron, Inc., is now being operated by the new owners.

That announcement came from Dale W. McMillen, Jr., president of Central Soya.

Mr. McMillen called the Bellevue plant a valuable addition to Central's existing operations and said that the plant with its storage capacity of 3,700,000 bu. would continue to provide a market for soybeans and grain.

The poly-resin facility at the site will continue to be operated by Spencer Kellogg through a lease arrangement, the announcement said.

Mr. McMillen also announced that the plant's personnel, including its management group, are being retained. In addition, Thomas B. Irish, Spencer Kellogg's soybean and grain buyer in Toledo, Ohio, has joined Central Soya in the same capacity. Mr. Irish will have his office in the Bellevue plant.

In the management group being retained by Central Soya are: Harry Stokely, plant manager; George Lynch, operating superintendent; Herbert Gale, office manager; John Huston, traffic representative; John McPherson, meal sales representative, and Robert Kirsch, plant chemist.

North Carolina Mill Under Construction

FARMVILLE, N.C.—A new 100 tons per day feed mill is now being constructed for Farmers Cooperative Exchange, Farmville.

The mill, scheduled for completion in the spring of 1962, will be known as the FCX Farmville Service Center. Engineering and construction are being done by Myers-Sherman Co., Streator, Ill. According to advance information from G. D. Arndt, general manager of FCX, complete mash and pellet feeds will be manufactured.

Included will be storage for 233,980 bu. of grain, a 1,000 bu. grain drier, a 50x160 ft. warehouse for bagging and storage, office and testing center, rail and truck unloading facilities and a complete bulk load-out setup.

The heart of the mill will be a three-ton push button batching system. Liquid proportioning systems for addition of molasses and fat are also provided.

Boston Exchange's Annual Banquet Set

BOSTON—The annual banquet of the Boston Grain & Flour Exchange will be Feb. 1 at the Parker House, Boston, it was announced. Tickets are available from Raymond C. Hall at H. K. Webster Co., 177 Milk St., Boston.

Corn Millers Elect

MACON, GA. — Don Sutherland, Berlin, has been elected president of the Georgia Corn Millers Assn. Herbert Birdsey, Birdsey Mills, Macon, was elected vice president, and J. H. Tutt, Washington, secretary.

New directors elected are John Gilliland, East Point; Claude Perkerson, Austell; Homer S. Durden, Swainsboro; Wilbur Tillman, Adel; C. H. Byrd, Loganville; J. Bruce Williams, Pine Mountain; M. A. Miller, Jr., McBean; Clyde Nichols, Griffin; Hulon Tribble, Roberta, and E. L. Butler, Covington.

UNDER CONSTRUCTION—Pictured is an artist's conception of the new feed mill being constructed at Farmville, N.C., for Farmers Cooperative Exchange. The 100-ton per day facility is scheduled for completion in spring, 1962.

Zeleny Sedimentation Test Kit

Accurate sedimentation tests depend upon the quality of the testing equipment used. The equipment offered by Seedburo Equipment Company is precision made to meet all U.S. Department of Agriculture specifications. Only quality equipment will assure you the best results.

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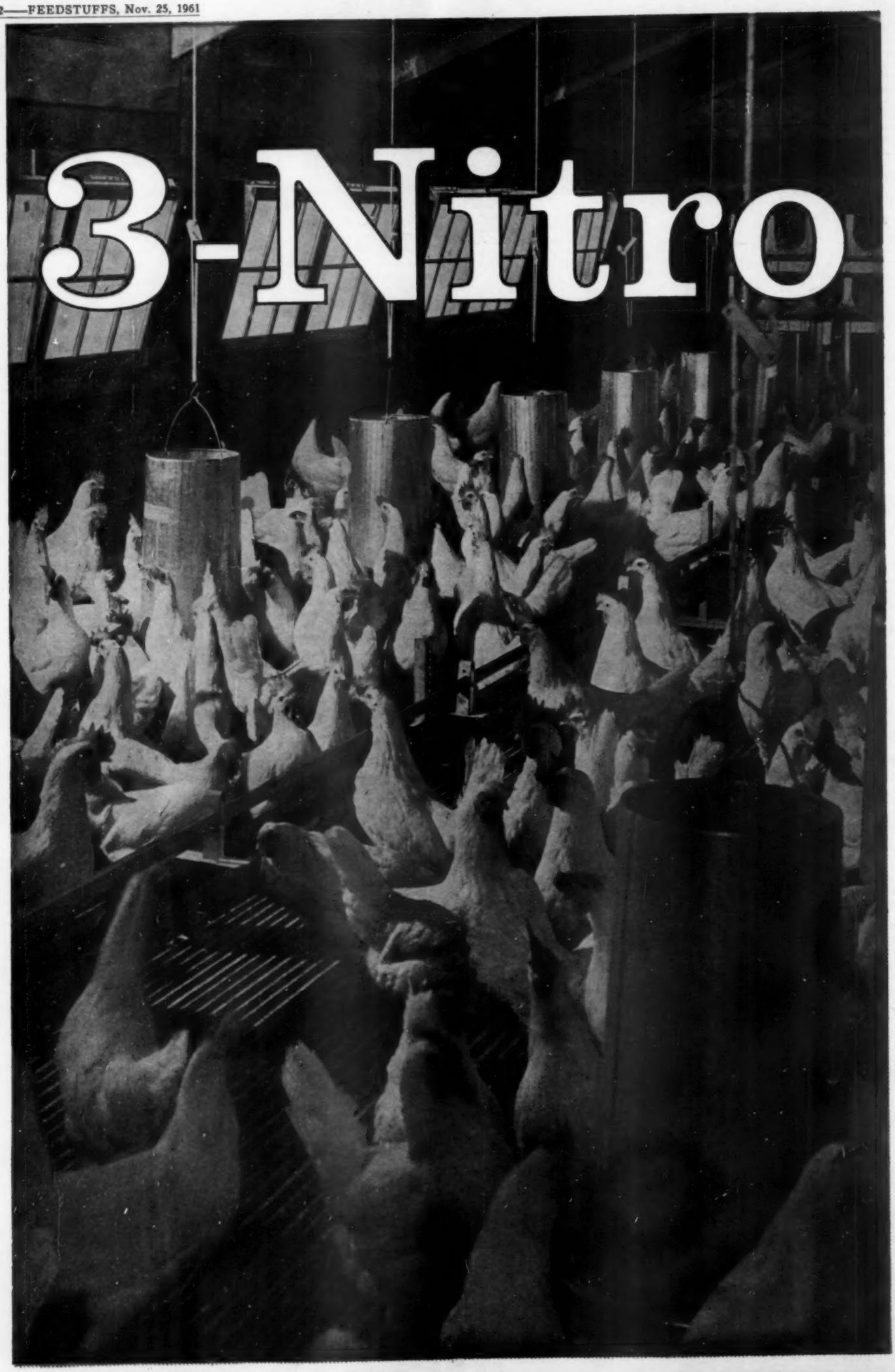
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YOU BENEFIT, TOO

Customer Satisfaction. Growers quickly recognize the value of 3-Nitro. And they tell their neighbors.

Your Feeds Do Better. 3-Nitro helps birds lay at the peak of their bred-in ability. This reflects credit on your feed.

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Ton-Pak Available. 3-Nitro is one of several Dr. Salsbury's feed additives available in the new Ton-Pak, for faster, surer control of batch-mixed feeds.

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Because of sustained advertising and promotion, your customers know of 3-Nitro's many advantages. So, make sure your feeds provide its many benefits. Write, wire, or phone for Feed Manufacturers Guide. Or, if you wish, ask for a Dr. Salsbury's representative to call personally and talk with you about 3-Nitro, the feed additive that gives your laying mash extra benefits to boost customer profits.

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MORE THAN PRODUCTS—A SYMBOL OF SERVICE

Need for Broadening Markets Stressed At National Renderers' Convention

By JAMES W. MILLER
Feedstuffs Staff

NEW YORK—The need for broadening uses and consequently the demand for renderers' products was stressed during the convention of the National Renderers Assn. here.

In order to increase world trade in fats, NRA, during the convention Nov. 5-8, announced a two-year market development program for western Europe. Myer O. Sigal, president of NRA, said the project will get underway soon with the establishment of an NRA regional office in Italy. Sponsored jointly with the Foreign Agricultural Service of the U.S. Department of Agriculture, the program will be active in France, Italy, West Germany, the Netherlands and the United Kingdom.

In the same vein, inter-commodity cooperation in broadening uses and markets for agricultural products around the world was urged by Howard L. Roach, president of the Soybean Council of America, in speaking before 300 members plus a large contingent of wives attending the event.

Under the title "The Fatty Acid Industry—Research and Markets," E. Scott Pattison, divisional manager of Association of American Soap & Glycerine Products, Inc., touched upon the chick-edema problem.

Returning to the two-year market development program announced, objectives are to be as follows: (1) To conduct market studies related to the use of renderers' products in the manufacture of soap and feed. (2) To collect data on trade restrictions, prices and other economic information. (3) To acquaint foreign buyers, importers and manufacturers with the advantages of inedible tallow and greases in the manufacture of their products. (4) To arrange for visits of foreign trade teams, government officials, industry representatives and technicians to the U.S. (5) To secure the cooperation of foreign groups in promotional activities. (6) To participate in trade fairs and other similar promotions which demonstrate the advantages of fat fortified feeds and other products.

Total consumption of formula feeds in western Europe for swine and poultry is estimated at around 12 million tons and even if a small level of fat were obtained in this amount—it would be an important quantity, the NRA president observed.

Mr. Sigal noted that as of a few years ago only about 2% of U.S. production of inedible fats and greases was being exported; now more than half the output is being shipped to foreign markets.

Speaking on inter-commodity cooperation, Mr. Roach said that worldwide promotion of all types of fats and oils—regardless of the sources of these products—is best. He said, "If the country is a producer of cottonseed oil, we of the council are interested in helping them increase the consumption of cottonseed oil, for all fats and oil with modern technology are interchangeable. When they consume their own supply, we will have a chance to sell them some from our own abundance.

Myer O. Sigal

Dr. O. H. M. Wilder

"This past year, the council helped the University of Peru stage a formula feed symposium on better feeding of livestock and poultry," Mr. Roach said. "Remember that Peru has fish meal literally running out of their ears. The export of this product to the U.S. and Europe competes directly with our own soybean meal. We were willing to help them with this symposium in order to get more fish meal consumed in Peru and reduce the amount for export.

"Furthermore, we were able to show how soybean oil meal could work with fish meal to give meat, poultry and eggs that did not have a fishy flavor. By working with our competitors and assisting them, we have their confidence and they do not bother us in the sale of vegetable oil for food purposes," Mr. Roach concluded.

Regarding the chick-edema problem, Mr. Pattison said stearic acid and oleic acid originally had GRAS classifications, but certain findings that oleic acid could cause hydropericardium in the chick caused a removal of this class of acids from the approved list.

Now all fatty acids for use in "direct additives" must be food grade, according to Mr. Pattison, and they must be made from edible fats and oils. Testing for "chick-edema factor" is an unsatisfactory procedure at best, the speaker declared, because no one has yet chemically identified the particular contaminant being sought.

"Chick edema has cropped up so seldom in the products of our industry that we have not been able to find enough to subject to rigorous analysis," the speaker asserted. "We have established the fact—to the satisfaction of our own government scientists—that it is not a self-created result of the fat-splitting or distillation process. Something must be present in the source material—tentatively identified as an unnatural chlorine-containing molecule. This toxic factor has been isolated from contaminated tallow and some suspected samples from non-tallow sources also have been found."

There is a possibility that it develops from certain insecticides, Mr. Pattison said.

Urging constant attention to the nutritive values of renderers' products and careful sanitary measures around the rendering plant was Dr. O. H. M. Wilder, head of the division of animal feeds, American Meat Institute Foundation. Essentially the protein and a large portion of the fat are used in feeds for farm animals, poultry and pets, Dr. Wilder said. "Therefore nutritive values and plant sanitation are of prime consideration," he concluded.

During the group's business session, all officers of the association were reelected. They include: Myer O. Sigal, G. Bernd Co., Macon, Ga., president; John H. Haugh, Tucson (Ariz.) Tallow Co., first vice president; William R. Malloy, Lynchburg (Va.) Rendering Co., second vice president; John J. Hamel, Jr., executive director, and Rose Alpert, secretary-treasurer.

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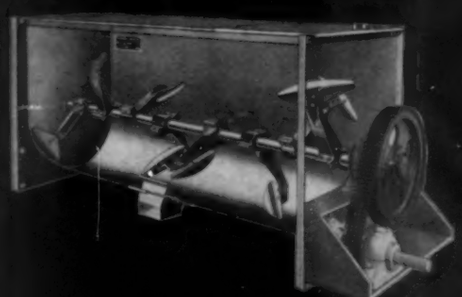

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New carload rates save you extra dollars on America's greatest feed buy! This chart gives examples of these new freight rate savings on both 30 and 35-ton cars, from all shipping points in Florida. You will note that an extra saving of 5¢ per hundredweight can be yours by ordering in slightly larger 35-ton carload lots.

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EXAMPLES OF FREIGHT RATE SAVING:

From All Points In Florida To:	Old Rate* Per 100 Lbs.	New Rate Per 100 Lbs. 60,000 Lbs. 30-Ton Car	New Rate Per 100 Lbs. 70,000 Lbs. 35-Ton Car	You Save Per Car 60,000 Lbs. 30-Ton Car	You Save Per Car 70,000 Lbs. 35-Ton Car
BOSTON, MASS.	$1.00	$ .92	$ .87	$48.00	$91.00
SPRINGFIELD, MASS.	1.00	.90	.85	60.00	105.00
WORCESTER, MASS.	1.00	.91	.86	54.00	98.00
BURLINGTON, VT.	1.03	.95	.90	48.00	91.00
RUTLAND, VT.	1.01	.92	.87	54.00	98.00
DANBURY, CONN.	1.00	.86	.81	84.00	133.00
CONCORD, N. H.	1.01	.94	.89	42.00	84.00
AUGUSTA, MAINE	1.10	.99	.94	66.00	112.00
ALBANY, N.Y.	$1.00	$ .88	$ .83	$72.00	$119.00
BUFFALO, N.Y.	1.03	.91	.86	72.00	119.00
OSWEGO, N.Y.	1.01	.91	.86	60.00	105.00
ROCHESTER, N.Y.	1.03	.90	.85	78.00	126.00
SYRACUSE, N.Y.	1.01	.90	.85	66.00	112.00
UTICA, N.Y.	1.00	.90	.85	60.00	105.00
GETTYSBURG, PA.	.88½	.78	.73	63.00	108.00
LANCASTER, PA.	.88½	.79	.74	57.00	101.00

*Shipping Point—Orlando, Florida

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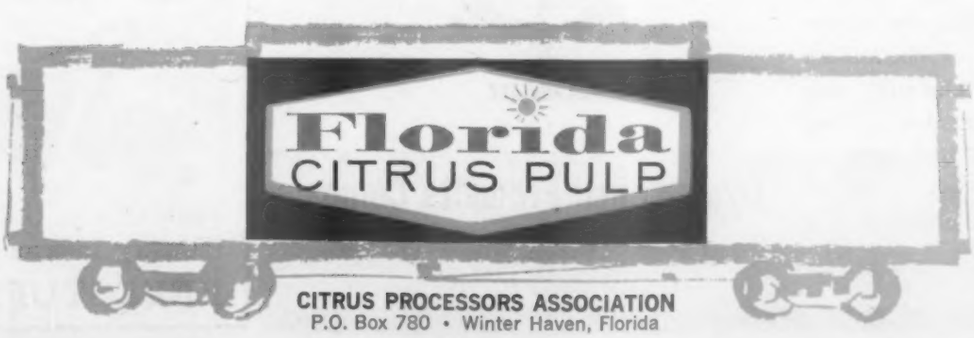

CITRUS PROCESSORS ASSOCIATION
P.O. Box 780 • Winter Haven, Florida

NEW FREIGHT RATES PER 100 LBS.

FROM ALL POINTS IN FLORIDA TO:	60,000 LBS. 30-TON CAR	70,000 LBS. 35-TON CAR
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Hartford	.88	.83
Stamford	.85	.80
Delaware		
Dover	.76	.71
Maine		
Augusta	.99	.94
Bangor	1.02	.97
Portland	.96	.91
Maryland		
Baltimore	.76	.71
Massachusetts		
Gardner	.92	.87
Lawrence	.93	.88
Worcester	.91	.86
New Hampshire		
Concord	.94	.89
Manchester	.93	.88
New Jersey		
Trenton	.80	.75
New York		
Binghamton	.88	.83
Elmira	.86	.81
Jamestown	.90	.85
Malone	.97	.92
Montauk	.92	.87
Ogdensburg	.95	.90
Oswego	.91	.86
Peekskill	.85	.80
Poughkeepsie	.86	.81
Syracuse	.90	.85
Utica	.90	.85
Watertown	.93	.88
Pennsylvania		
Altoona	.82	.77
Bethlehem	.81	.76
Canton	.84	.79
Coatesville	.79	.74
Erie	.90	.85
Fairmount	.86	.81
Hanover	.77	.72
Harrisburg	.79	.74
Hazleton	.83	.78
Lansdale	.80	.75
Mansfield	.88	.83
Philadelphia	.79	.74
Reading	.80	.75
Scranton	.84	.79
Towanda	.85	.80
Rhode Island		
Providence	.91	.86
Vermont		
Burlington	.95	.90
Newport	.98	.93
Rutland	.92	.87

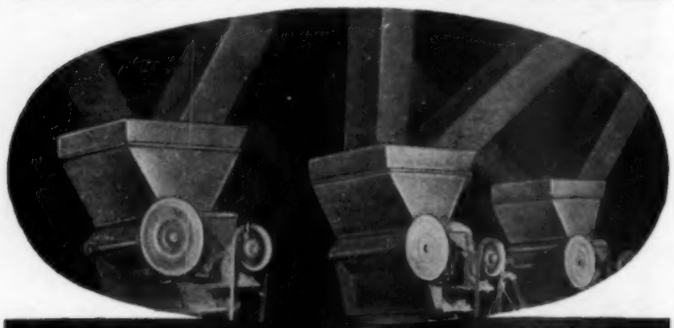

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TABLE 1. Hens and Pullets of Laying Age, Pullets Not of Laying Age, Potential Layers and Eggs Laid per 100 Layers on Farms, Nov. 1

Year	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
Hens and Pullets of Laying Age on Farms (thousands)							
1950-59 (average)	58,286	63,733	88,837	33,782	50,868	36,995	332,503
1960	48,967	51,252	70,591	39,704	46,371	40,610	297,495
1961	46,849	49,150	70,075	42,223	49,076	43,236	301,409
Pullets Not of Laying Age on Farms (thousands)							
1950-59 (average)	9,715	10,058	19,738	7,458	11,065	6,779	64,813
1960	8,095	7,144	14,014	9,070	9,693	7,308	55,324
1961	7,560	6,559	11,553	8,793	8,871	7,730	51,066
Potential Layers on Farms* (thousands)							
1950-59 (average)	68,001	73,791	108,575	41,240	61,934	43,774	397,316
1960	57,062	58,396	84,605	48,774	56,064	47,918	352,819
1961	54,409	55,709	81,628	51,016	58,747	50,966	352,475
Eggs Laid Per 100 Layers on Farms (number)							
1950-59 (average)	51.2	46.5	42.5	42.9	37.6	52.8	45.2
1960	53.2	52.3	48.0	51.5	46.0	58.6	51.2
1961	54.5	55.3	50.3	53.9	48.6	59.4	53.3

*Hens and pullets of laying age plus pullets not of laying age.

U.S. Layer Numbers Increase 1%

WASHINGTON — The number of layers on farms Nov. 1 totaled 301,409,000, 1% more than the number on hand a year earlier, according to figures announced by the U.S. Department of Agriculture.

The rate of lay Nov. 1 was 53.3 eggs per 100 layers, compared with 51.2 eggs Nov. 1, 1960, an increase of 4% and a record for the date, according to USDA figures.

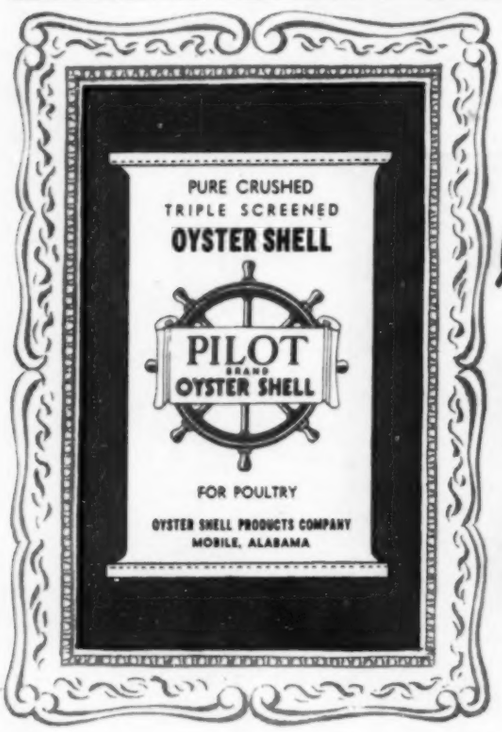
Layer numbers, compared with last year, were up 8% in the south central region and 6% in the south Atlantic and western regions. These increases were partially offset by decreases of 4% each in the north Atlantic and east north central regions and 1% in the west north central states, the department said.

In rate of lay, all regions of the country showed increases from a year ago. Those increases were: 6% in the east north central and south central, 5% in the west north central and the south Atlantic, 2% in the north Atlantic and 1% in the western states.

Pullets not of laying age Nov. 1 were estimated at 51,066,000, 8% below a year ago. Holdings in all regions were below last year with the exception of the West where a 6% increase occurred, according to USDA. Decreases from Nov. 1, 1960, were 18% in the west north central, 8% in the east north central and in the south central, 7% in the north Atlantic and 3% in the south Atlantic states.

Potential layers on farms Nov. 1 were estimated at 352,475,000 compared with 352,819,000 at the same time last year and with the Nov. 1, 1950-59, average of 397,316,000.

Decreases from last year of 5% in the north Atlantic and east north central states and 4% in the west north central states more than offset increases of 6% in the West and 5% in the south Atlantic and the south central states.



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Dealers, coast-to-coast, know that it pays to stock and promote PILOT BRAND, the largest-selling eggshell material in the world. You can always count on PILOT BRAND for quick, easy sales and good, steady profits. And we help you with consistent, hard-selling national advertising in leading farm and poultry publications and on more than 70 radio stations.

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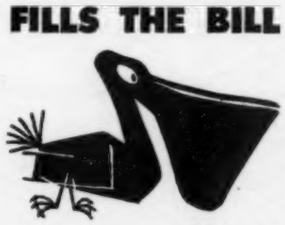

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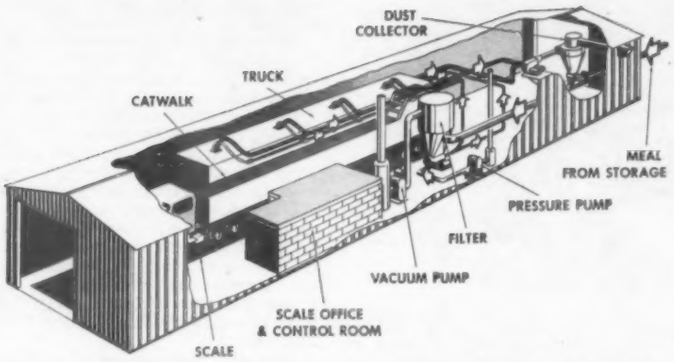

BULK TRUCK LOADING FACILITY—This drawing illustrates operation of pneumatic bulk truck-loading facility recently installed by Minnesota Linseed Oil Co., Minneapolis. Direction of air and meal flow is indicated by arrows.

Oilseed Processor Uses Air to Load Bulk Truck

MINNEAPOLIS — A bulk truck-loading facility just installed by Minnesota Linseed Oil Co., Minneapolis, employs a new idea. Pneumatic conveying is used to move bulk meal direct from storage to trucks.

The new installation has two pneumatic systems. There is a vacuum system which moves bulk meal at high velocity (5,000 ft. per minute) from storage to the loading shed. At the shed a filter separates the air from the meal. Then a lower-velocity pressure system moves the bulk meal from the filter to the truck being loaded.

Minnesota Linseed officials say the chief reason for selection of a pneumatic conveying system is its self-cleaning feature. It can be air-cleaned immediately after linseed meal has been loaded through the system and is then ready for handling other meals.

50-Ton Truck Scale

A 50-ton capacity Fairbanks-Morse scale is set in the floor of the new loading shed.

"Different kinds of meal can be loaded in compartmented trucks with no contamination and virtually no time lag," company officials say.

For open-body trucks, there is a rear-loading boom that extends 10 ft. into the truck body. For closed-body trucks with hatches, there are four top-loading hoses that operate one-at-a-time with valve controls.

25 Tons an Hour

A typical 20-ton load of meal takes 48 minutes. The pneumatic system is rated at 25 tons per hour.

Engineers at Minnesota Linseed worked with Philip E. Parbury of Parbury Engineering Co., Minneapolis, in designing the new bulk truck-loading facility. The system is planned so that loading speed can be doubled when volume of truck-loadings warrants expansion of capacity.

MAKE 2 SALES instead of 1

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ESTABLISHED IN 1800

CALF-PAB
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Recommend and sell this low-cost feeding program that gets calves off to a good start without set-backs. Supplies every known nutrient that calves need. Aids rumen development. Helps calves develop to their full inherited milk-producing abilities. Let us tell you about these high quality feeds that are built to exacting standards.

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Midwest Division, Des Moines, Iowa
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1) Every bird gets an individual *measured dose.*
2) The respiratory tract is *not* directly affected.
3) Solid immunity is produced which ordinarily prevents the mild respiratory outbreaks during the late growing period, frequently the cause of throw-outs.
4) At 4 weeks or thereafter, the INTRAMUSCULAR application of N-63 can be combined *in one injection* with a recommended antibiotic. This combination injection reduces vaccination reaction and decreases the possibility of CRD getting a toe-hold at this time.

DPL N-63 Newcastle INTRAMUSCULAR Vaccine is ideally suitable for broilers, breeders, layers. It may be easily incorporated in most vaccination programs. Write for fact sheet. Write, wire, or phone DPL today!

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JOE BROOKS

BY AL P. NELSON

Let Them Look and They'll Get Interested

Albert Dittman was in the dairy barn cleaning stalls and gutters and liming the floor when Myrtle, his plump wife, clad in slacks and red jacket, entered the door. Outdoors, in the fenced-in cattle yard, the cows were enjoying late fall sunshine.

"Oh, Al," said Myrtle, holding some papers in her hand, "how'd you like to be a sidewalk superintendent?"

"A what?" he asked, leaning on his fork.

"A sidewalk superintendent!" Myrtle said brightly. "For Joe Brooks. You got a letter from him and an official card making you a member of his Sidewalk Superintendents Society. You can watch them building that new farm supply store onto the mill section. Want to read the letter?"

Mr. Dittman shook his head. "Naw, my hands are all dirty. You read it to me. I need a fiver anyway. This is hard work."

Myrtle held the paper up to the sunlight streaming through the windows at the south side of the barn and read:

"Welcome to the Society of Sidewalk Superintendents. Here is your membership card entitling you to all the unique rights and privileges of a Sidewalk Superintendent.

"As a member of this not so exclusive organization, you have complete authority to direct the proper shivering of timbers, raising of roofs and broadening of beams during the construction of our big new farm store. All society members—especially experienced do-it-yourselfers—are duty bound to tender suggestions of a helpful nature to workmen observed encountering difficulties during construction.

"For your convenience, special luxurious observation facilities (the outdoors) have been provided for society members only. I hope you will make extensive use of them. We will have free coffee every day and sugared doughnuts (Mary's brand) every Tuesday.

"Seriously, I hope you will watch with interest as our new farm store takes the lead in bringing better service on farm needs to the people in this area. And, while you are watching our builders at work, we will even grind and mix feed for you and tie your shoelaces."

"Well, I'll be durned," Mr. Dittman grinned. "That darn Joe just doesn't pass up any promotion ideas. I'll bet when his mother-in-law visits him—if she ever does—he'll run a full page ad and her picture, inviting all us farmers to come in and meet her at the store and have coffee with her."

Myrtle looked puzzled. "Now why in the world would he do that, Al?"

Al chuckled. "Why, so more farmers would come to the mill, that's why. The more people that come in, the heavier the store traffic. The more people in the store, the more Joe will sell."

"Isn't it a little late to build? It's near winter."

Al shook his head. "Oh, the foundation is in and they've even laid the concrete floor. I saw that last week when I was in. Joe told me he is having that big basement so any farm people and himself can have meetings down there without renting some hall somewheres. He's going to have rest rooms and a small kitchen there, too. About a hundred people can get into that basement, Joe claims."

"But Joe has a fair sized farm store now attached to his mill," persisted practical Myrtle. "Why does he want more space?"

Al looked at his wife. She was a good sort and she baked excellent apple pies, but she had to have things explained in detail. Like the time when they were married and Al showed up with a different tie than the one they had agreed he should wear. How could a guy tell his bride that he was so nervous about getting married he had spilled soft boiled egg and coffee on a necktie—and so had to use a different one. A bride—such as Myrtle—just might not understand.

"Well, you see, hon, it's this way," he said. "Joe's a practical guy. He knows what every department of his business does for him. He told me his farm store accounted for 15% of his volume last year. And he didn't

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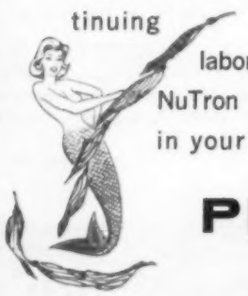
New NuTron ManAmar is the most powerful feed supplement in the 36-year history of Philip R. Park, Inc. NuTron ManAmar, with nearly twice the potency of our famous Mixing ManAmar, is the result of an important breakthrough in processing techniques. It permits us to offer to the feed industry the most concentrated package of marine ingredients ever made available. Along with ManAtronics Electronic Formulation, announced recently, and Philip R. Park, Inc.'s continuing research and laboratory assistance, NuTron ManAmar places in your hands another powerful aid for service and savings to your customers — and new profits for yourself. NuTron ManAmar was specifically designed to meet the growing interest in and demand for the trace mineralization found in Park Processed Sea Kelp (Macrocystis pyrifera) — in combination with amino acids, vitamins and growth factors of marine origin. Plan now to put Nutron ManAmar to work for you. This revolutionary new nutritive product is being extensively advertised to your customers in leading publications. For full information about NuTron ManAmar and the ManAtronics Electronic Feed Formulation system, write:



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PURDUE SCIENTISTS STUDY HOG ULCERS

LAFAYETTE, IND.—Two Purdue University veterinarians are studying gastric ulcers in swine under a $45,000 three-year research grant from the National Institutes of Health.

Dr. G. D. Goetsch and Dr. T. M. Curtin are investigating the cause, development and effect of ulcers in hogs. A recent increase in the seriousness of stomach ulcers in hogs is causing swine raisers concern and is of interest to investigators of this condition in man, the announcement said.

Results of the study are expected to provide direct benefits to the swine industry and may furnish new ideas for treatment and prevention of stomach ulcers in human beings, a Purdue spokesman said. The pig also may be proved to be of great value in future comparative studies in the field of physiology, it was stated.

have space to display farm appliances, garden tillers, garden tractors, all brands of his feeds and things like that. With the new store he figures he can boost that farm store level to maybe 25% in time."

"Oh," said Myrtle, "isn't that what's wrong with this country? People get so nervous just trying to do better this year than last year. First thing you know we'll all have to stay up 18 hours a day trying to beat our own records for the years behind."

Al looked puzzled. "Say, Myrt, keep that up and you could run for the state assembly. Would you ever doubletalk those politicians. But let's get back to Joe and his figuring. If it hadn't been for Joe and his pencil, we'd have lost money this past year."

"We would?"

"Why, of course. Here I was going to invest about $5,000 in a grind-mix outfit and do all the work myself. Joe came out and figured with me on a year's basis of how much it would cost me to operate such an outfit on my farm. Then he figured what his mill could do getting my grain and putting it into the grain bank, processing my feed when I want it, and bringing it back out here into feeders and storage bins without me handling a bit of it until I was ready to feed the cows and the hogs. Joe showed me he could process this feed and bring it here cheaper than I could do it myself. I wouldn't have believed it—but he showed me. And the monthly figures show he's right."

"But how is it that you aren't so busy any more?" asked his wife. "I worry about it sometimes when I see you taking so much time for lunch, or just walking around looking the farm over. How can we make money if you aren't busy working all the time?"

Al looked fondly at his wife. "Hon," he said gently, "this is a new age. With the help of your feed dealer and some other folks you work your head and not your back so much. You think and plan and do things the efficient way. That's why I have more time on the farm. I'm getting smart, thanks to guys like Joe. By golly, I'll even have time to take that sidewalk superintendent card and spend some hours at Joe's looking over that new farm store going up."

Mr. Dittman took the blue card from his wife. It showed a man peeking through a hole in a fence. He stuck the card into the band of his worn grey felt hat. "And," he commented wisely, "I'll make my visits to Joe's on Tuesdays. That's the day he serves Mary's sugared doughnuts with coffee. See how a feller has to think every minute of the day to get the most for his money?"

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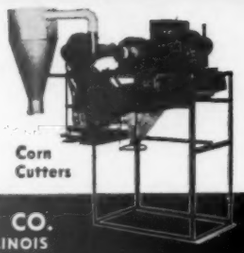

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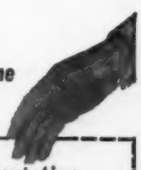

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Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

Dec. 13-15—Grain and Feed Dealers Conference; Kansas State University, Manhattan; Hugh J. McDonald, Dept. of Agricultural Specialists, Extension Division.

1962

Jan. 22—Nevada Feed Confeernce; University of Nevada, Reno.

Feb. 1—Boston Grain & Flour Exchange Annual Banquet; Parker House, Boston; tickets, Raymond C. Hall, H. K. Webster Company, 177 Milk Street, Boston, Mass.

Feb. 23—National Feeder Finance Credit Group; Curtis Hotel, Minneapolis, Minn.; sec., R. Lindholm, 502 Thorpe Building, Mpls. 2.

Nov. 30-Dec. 1—Dealers Nutrition Conference; University of Nebraska, Lincoln; Dr. P. L. Kelly, chm., Dairy Husbandry Dept.

Dec. 5-6 — North Dakota Turkey Convention; Civic Center Auditorium, Fargo; sec., North Dakota Turkey Federation, Irving J. Mork, Box 2408, State University Station, Fargo.

Dec. 6-7 — Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed & Grain Dealers Assn.; Pantlind Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

Dec. 7-8 — North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. G. H. Wise, Animal Nutrition Section, Animal Industry Dept.

Dec. 8 — Illinois Sheep Day; University of Illinois, Urbana; U.S. Garrigus, Animal Science Dept.

Dec. 11-15—Stockmen's Short Course; Washington State University, Pullman; Dr. M. E. Ensminger, chm., Animal Science Dept.

Dec. 13—American Society of Agricultural Engineers; Palmer House, Chicago; grain storage and feed processing session, cooperative program sponsored by ASAE and Grain Processing Machinery Manufacturers Assn.; sec., GPMMA, John Wessman, 400 W. Dartmouth Rd., Kansas City 13, Mo.

Dec. 13-15—Grain and Feed Management Conference; Kansas State University, Manhattan; Hugh J. McDonald, Extension Division, Waters Hall.

Dec. 16—Kansas Veterinary Nutrition Conference, Kansas State University, Manhattan; sponsored by K-State; Kansas Veterinary Medical Assn.; Midwest Feed Mfrs. Assn., and Kansas Formula Feed Manufacturers, Larry Younkin, Supersweet Feed, Salina, Kansas, president.

1962

Jan. 4-5—Minnesota Poultry Hatchery Assn.; Radisson Hotel, Minneapolis, Minn.; sec., L. L. Baumgartner, Litchfield, Minn.

Jan. 8-9 — Kansas Formula Feed Conference; Kansas State University, Manhattan; chm., Prof. T. B. Avery, Poultry Science Dept., West Waters Hall.

Jan. 9-11—National Turkey Federation; Memorial Auditorium, Dallas, Texas; co-headquarters hotels, Baker and Adolphus; sec., M. C. Small, Box 69, Mount Morris, Ill.

Jan. 19-20—Florida State Poultry Producers Assn.; San Juan Hotel, Orlando; sec., Tom Chesnutt, P.O. Box 11236, St. Petersburg 33, Fla.

Jan. 21-23—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 21-24—Farmers Grain Dealers Association of North Dakota; Civic Memorial Auditorium, Fargo; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 23-27—New Jersey Farmers Week and Farm Show (Jan. 23-25); Trenton Armory; sec., Phillip Alampi, New Jersey Department of Agriculture, Trenton 25.

Jan. 28-30—Midwest Feed Manu-

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facturers Assn.; Shamrock-Hilton Hotel, Houston, Texas; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Jan. 29-31 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 30-31—Illinois Agricultural Industries Forum; University of Illinois, Urbana, Ill.

Jan. 31—Louisiana Livestock Producers Day; Louisiana State University, Baton Rouge 3; chm., Dr. A. M. Mullins, Animal Industry Dept.

Jan. 31-Feb. 1 — Illinois Nutrition Conference; University of Illinois, Urbana; chm., Dr. Carl L. Davis, Dairy Science Dept.

Jan. 31 - Feb. 1 — New Hampshire Poultry Health Conference; University of New Hampshire, Durham; Richard Warren, Poultry Science Dept.

Feb. 1—Missouri Turkey Day; University of Missouri, Columbia; sec., Missouri Poultry Improvement Assn.,

Feb. 1-2—Oregon Animal Industry Conference; Oregon State University, Corvallis, Ore.; co-sponsored by the Oregon Feed & Seed Dealers Assn. and Oregon State University; chm., Bill Eggimann, Dairy Cooperative Assn., 2613 S.E. 8th Ave., Portland.

Feb. 2-3—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., Roy C. Munson, 2200 University Ave., St. Paul 14, Minn.
E. M. Funk, Box 568, Columbia.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry. Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 7-9 — American Dehydrators Assn.; Stardust Hotel, Las Vegas, Nev.; Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 9-11 — Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 12-13 — Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 15-16 — Utah Feed Manufacturers & Dealers Assn. Annual Nutrition Conference and Meeting; The Newhouse Hotel, Salt Lake City; sec., Dr. Lawrence Morris, Brigham Young University, Provo.

Feb. 16 — Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 18-20 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., George G. Greenleaf, P.O. Box 151, Worthington.

Feb. 20-21 — Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.;

CALENDAR FOR 1961-62

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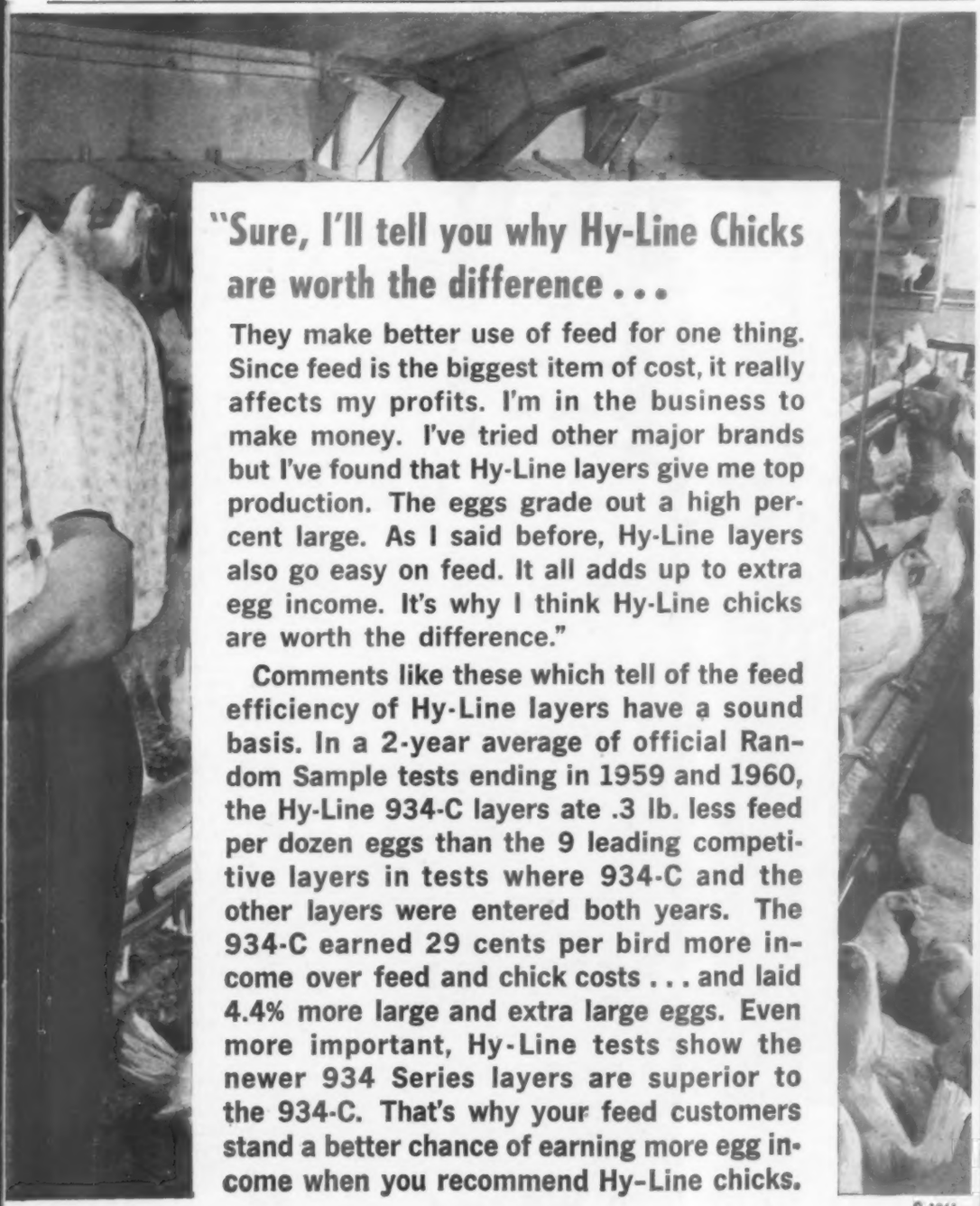

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sec., Virginia State Feed Assn., J. Paul Williams, 615 E. Franklin St., Richmond 19, or Prof. Paul M. Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

Feb. 26 - March 1 — Colorado Livestock Days; Colorado State University, Fort Collins; chm., Dr. C. D. Story, head, Animal Science Dept.

March 2-3—Oklahoma Feed Industry Conference and Work Shop; Oklahoma State University, Stillwater; Dr. Rollin H. Thayer, chm., Poultry Science Dept.

March 4-6—Nebraska Grain & Feed Dealers Assn.; The Cornhusker Hotel, Lincoln; sec., Howard W. Elm, Terminal Bldg., Lincoln 8, Neb.

March 8 - 9 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Dept., University of Maryland, College Park.

March 13—Illinois Swine Growers Day; Univerity of Illinois, Urbana, Ill.

March 15-16—Oregon Feed & Seed Dealers Assn.; Sheraton Hotel, Portland; sec., Russ Hays, Lewis Bldg., Portland 4.

March 15-17 — Pacific Dairy and Poultry Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Lloyd J. Powers, 1304 E. 7th St., Los Angeles 21.

March 19-21—Poultry and Egg National Board; Palmer House, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

March 21-23—Grain & Feed Dealers National Assn.; Denver - Hilton Hotel, Denver, Colo.; Secretaries Circle meetings March 19-20; sec., Herbert L. Sharp, 401 Folger Bldg., 725 15th St. N.W., Washington, D.C.

March 25 - 30 — Grain Elevator & Processing Superintendents; Town House Motel, Omaha, Neb.; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

March 28—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; Dr. Lawrence E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 28—Commercial Egg Clinic; Texas A&M College, College Station; B. C. Wormell, Extension Poultry Husbandman.

April 9-10 — National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 10-12—Animal Health Institute; Statler-Hilton Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines 9, Iowa.

April 13 — Illinois Cattle Feeders Day; University of Illinois, Urbana.

April 18—Nebraska Feeders Day; University of Nebraska, Lincoln; chm., Dr. Robert M. Koch, Animal Husbandry Dept.

April 26-28 — Texas Grain & Feed Assn.; Hotel Texas, Ft. Worth; sec., R. B. Bowden, 504 Ft. Worth Club Bldg., Ft. Worth 2.

April 26-28—California Hay, Grain & Feed Dealers Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Leo L. Johnson, 1400 10th St., Sacramento 14, Cal.

April 26-28—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 27 — Indiana Cattle Feeders Day; Purdue University, Lafayette; chm., Dr. W. M. Beeson, Animal Science Dept.

May 4 - 5 — Illinois Grain Dealers Assn.; St. Nicholas Hotel, Springfield, Ill.; exec. sec., Donald E. Palmer, 910 Lehmann Bldg., Peoria, Ill.

May 10-11 — Alabama Poultry Industry Assn. Convention and Poultry Jubilee; Dinkler - Tutwiler Hotel, Birmingham, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

May 10-13—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 54.

May 27-28—Missouri Grain & Feed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 8 — Poultry Coronation Banquet; Dinkler Plaza Hotel, Atlanta, Ga.; sec., Abit Massey, Georgia Poultry Federation, Box 493, Gainesville.

June 28-30—Canadian Feed Manufacturers National Assn.; Sheraton Brock Hotel, Niagara Falls, Ontario, Canada; sec., Ontario Division, H. J. Willcock, 356 Eastern Ave., Toronto 8, Ontario.

July 13-17—Georgia Feed Assn.; Tides Hotel, St. Petersburg, Fla.; sec., Will L. Kinard, Suite 210-3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

July 17-19—American Poultry Congress & Exposition; St. Louis, Mo.; sec., American Poultry & Hatchery Federation, Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 13-18 — 12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Socity, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

Aug. 24—Purdue Swine Day; Pur-

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due University, Lafayette, Ind.; chm., R. A. Pickett, Animal Science Dept. **Dealers Assn.**; State Office Bldg., Es-

Sept. 5-7—Cornell Nutrition Conference; Cornell University, Ithaca, N.Y.; chm., Dr. R. J. Young, Poultry Husbandry Dept.

Nov. 8—Upper Peninsula Feed Dealers Assn.; State Office Bldg., Escanaba, Mich.; UPFDA, Box 342, Sault Ste. Marie.

Nov. 12-14—Feed Production School; Continental Hotel, Kansas City; pres., Lloyd S. Larson, Feed Production School, Inc., 20 W. 9th St. Bldg., Kansas City 5, Mo.

1963

March 24-29—Grain Elevator & Processing Superintendents; Commodore Perry Hotel, Toledo, Ohio; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

Canada Sets Records In Broilers, Turkeys

OTTAWA—Production of broilers and turkeys are both at record rates in Canada. Chicks hatched for egg production are about even with last year, but are expected to give a strong showing in the final quarter of the year.

Production of broiler chicks in the first three quarters of 1961 is almost equal to the entire production of 1960—76,728,700 compared to 78,471,915, according to figures in the third quarter report of the Production and Marketing Branch, Poultry Division, Canada Department of Agriculture. Production for the first three quarters of 1961 is 27.5% ahead of that for the same period of 1960.

It is reported that through the middle of October 63.9 million pounds of turkey has been slaughtered in Canada's registered stations, 37.8% more than a year ago and 12.6% more than in the record year of 1959.

In another poultry phase—egg production, it is reported that chicks hatched for egg production total 49,318,305 through the third quarter, up from the 48,907,788 for the same period a year earlier. The government report indicates that heavy hatchings in the third quarter raised the figure from below year earlier figures to the figure .8% over a year ago and that continued heavy settings are expected to give a substantial increase for the year as a whole.

Borden Sets Record

NEW YORK — The Borden Co., New York, has announced record sales and earnings for the nine months and the quarter ended Sept. 30. Harold W. Comfort, president, said figures include nine-month and third-quarter sales and earnings of Columbus Coated Fabrics Corp., which was acquired by Borden July 27 as a "pooling of interests."

Sales for the first nine months were $758,473,429, up 2.7% from $738,485,009 in the corresponding period of 1960. Nine-month earnings were $22,902,616, compared with $21,932,031 in the similar 1960 period, an increase of 4.4%. Per share earnings rose to $2.16 from $2.10 in the first nine months.

Mr. Comfort listed three reasons for the higher 1961 earnings: A pick-up in principal areas of the company's chemical business; increased sales of specialty food items, which normally carry a higher profit margin than staples in the Borden product line, and a more favorable showing by foreign operations.

Animal Nutrition and Feed Production Consultant

C. W. SIEVERT

Room 855—141 W. Jackson Blvd.
Phone Webster 9-3256 Chicago 4, Ill.

California Feed Men Planning Convention

LOS ANGELES—The 38th annual convention of the California Hay, Grain & Feed Dealers Assn. will be held April 26-28 at the Biltmore Hotel here, according to word from the convention planning committee which held its initial meeting here recently.

Those in attendance at the committee meeting included: Ted Griffin, president; Charles Hester, general convention chairman, and committeemen: H. V. Nootbaar, program and special arrangements; Lee Girvin, transportation; Larry Elfeldt, housing; Rod Anspach, publicity; E. W. Nelson, men's luncheon; Walt Blasingham, dinner dance; Jack Flammer, Saturday breakfast; Chuck Sanders, bowling, and Terry Baker, golf.

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In the course of more than 60 years of service to formula feed manufacturers, Fruen Milling Company has established a reputation for quality and service at competitive prices.

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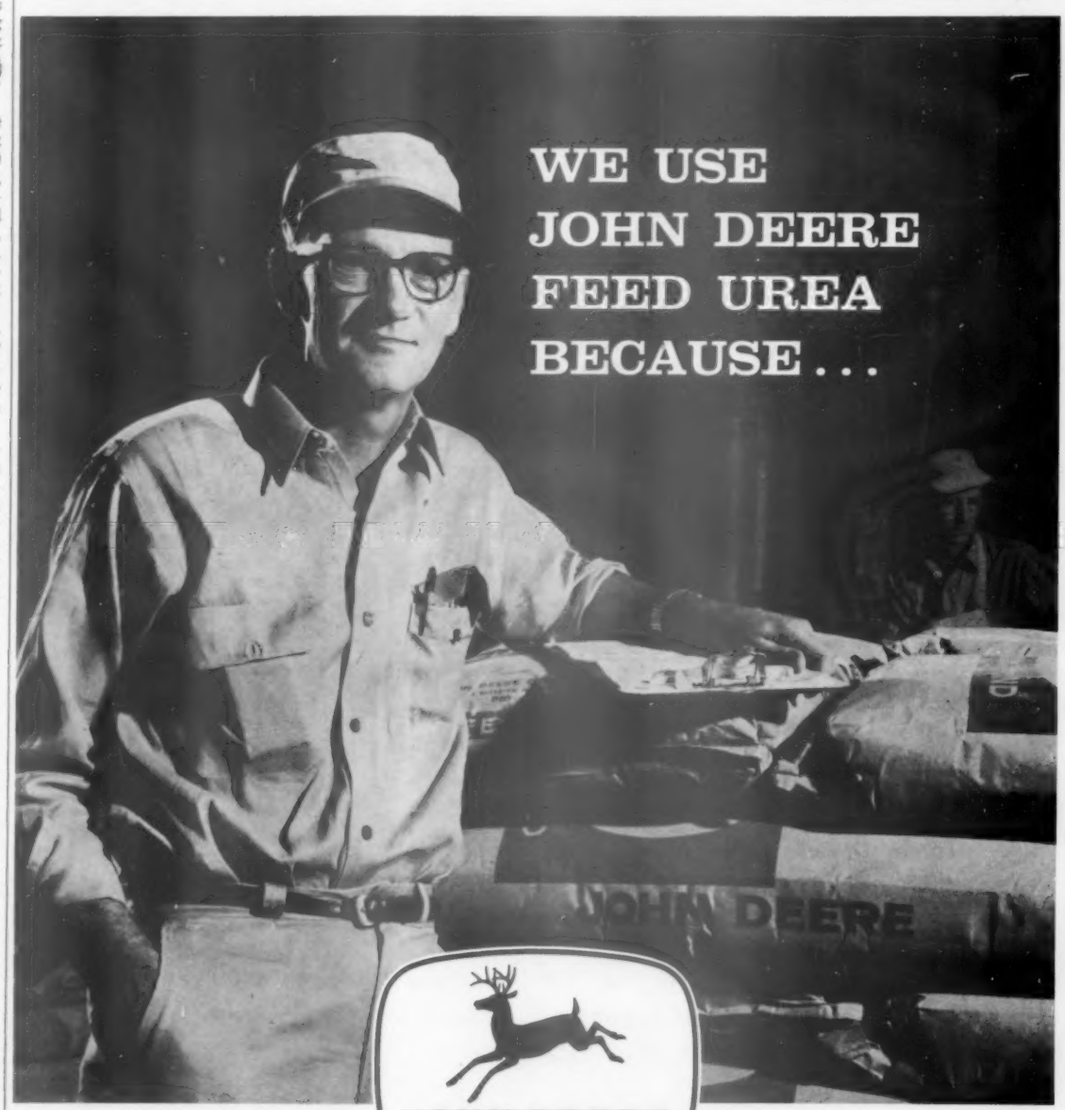

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Ohio Studies Hatching Egg Contracts

WOOSTER, OHIO — The University of Ohio Agricultural Experiment Station, Wooster, has completed a study of egg procurement practices of hatcheries of that state. The following report of the study was published in the station's publication, "Ohio Farm and Home Research."

Although the trend is toward hatcheries owning their sources of hatching eggs, it was found in a study of egg procurement practices by Ohio hatcheries during 1960 that over 70% of the hatching eggs came from independent farm supply flocks. These were flocks owned by individual producers or flocks in which the producer participated in the management decisions and assumed some of the production risks. Although the size of the hatchery supply flocks has been increasing very rapidly, the average was less than 500 birds per flock.

In over 75% of the contracts between producers and hatcherymen for hatching eggs to produce "egg-type" chicks, the price paid the producers was based on a price quotation for market eggs plus a premium. Forty percent of the contracts for "broiler type" hatching eggs also called for a premium above a price quotation for market eggs. Both the federal-state market news reports and the prices paid by egg marketing organizations were used as a base. The price quotations for grade "A large" and "large-extras" were used most frequently.

The premium above the price of market eggs ranged from 12 to 25¢ doz. depending on the quotation used and the type of hatching eggs. Both the market quotations and the amount of the premium must be taken into consideration in comparing the different contracts. For example, the total price paid for hatching eggs based on the Chicago wholesale price of "large-extra" eggs plus a 25¢ premium may not be as much as a price based on a local market quotation of grade "A-large" with a 12¢ premium. Although the practice of tying the price paid for hatching eggs to a price quotation for market eggs may reduce some of the risks for the hatcheryman, this practice is becoming obsolete. The price fluctuations are too large to permit adequate planning in either the production or hatchery business.

In another type of contract, the producer was paid a pre-determined price for all acceptable hatching eggs produced. The price was established or agreed upon before the production processes were started. In the study, the price paid the producer varied from 55-70¢ doz., depending on the type eggs and the inputs furnished by each party. In cases where the producers supplied only labor, buildings and equipment and the hatcheries supplied everything else, producers were paid 12-15¢ for each dozen eggs produced.

Bonus Provisions

Forty-one percent of the contracts pertaining to "broiler-type" hatching eggs and 2% of the "egg-type" hatching egg contracts included bonus provisions based on hatchability. The bonus was in addition to the premium over a market quotation or a base price. For example, a producer may receive a base price of 64¢ doz. plus bonus of 1¢ doz. for each 1% in hatchability above 75%. If 80% of the eggs hatched, the producer would receive 69¢ doz.

Price Arrangements

In a similar type of contract for "broiler-type" hatching eggs, the producer received 1¢ doz. for each 1% hatch. For example, if 80% of the eggs hatched, the producer would receive 80¢ doz. Another hatcheryman tied the price of broiler-type hatching eggs to the price of day old broiler chicks.

Includes Guarantee

While hatchability is decreasing in importance in establishing the price of hatching eggs, an increasing number of the contracts contain provisions guaranteeing the producer a minimum price. Hatcherymen indicated they have to guarantee producers a minimum price in order to get them to produce hatching eggs. Sixty-one percent of the "broiler-type" and 43% of the "egg-type" hatching egg contracts based on market quotation contained provisions guaranteeing the producer a minimum price. In 1960, the average minimum guarantee was 60¢ doz. for "broiler-type" hatching eggs and 52¢ doz. for the "egg-type" hatching eggs. The length of the period the hatchery will guarantee a market is another factor in evaluating the different contracts. Considerable variation was found among contracts in this respect. Some of the contracts guaranteed the producer a high price but only for a short period. The average length of time the hatcheries agreed to buy the hatching eggs was 30 weeks for "broiler-type" and 14 weeks for the "egg-type."

Evaluations

In evaluating the different contracts and making comparisons between market egg and hatching egg production, the producer must consider costs as well as the prices received for the eggs. He must know what it costs to produce a dozen eggs using the type of bird, production supplies, and practices specified in the contract. Other important factors to be considered include the financing arrangements, services and integrity of the hatchery.

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PREMIUM RESULTS
at the market place

For best results on the farm or at the market, the choice is SPENCER KELLOGG'S OLD PROCESS *"expeller"* LINSEED OIL MEAL. This is the meal containing *natural, unsaturated fat* (left in...forming an integral part of the meal particle). It is the meal which provides healthier appearance, better bloom, premium conditioning and customer profits.

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Cobb White Rocks have been first for rate of growth in 9 of the last 10 official broiler tests. Write for your documented report. Distribution centers from coast to coast and overseas.

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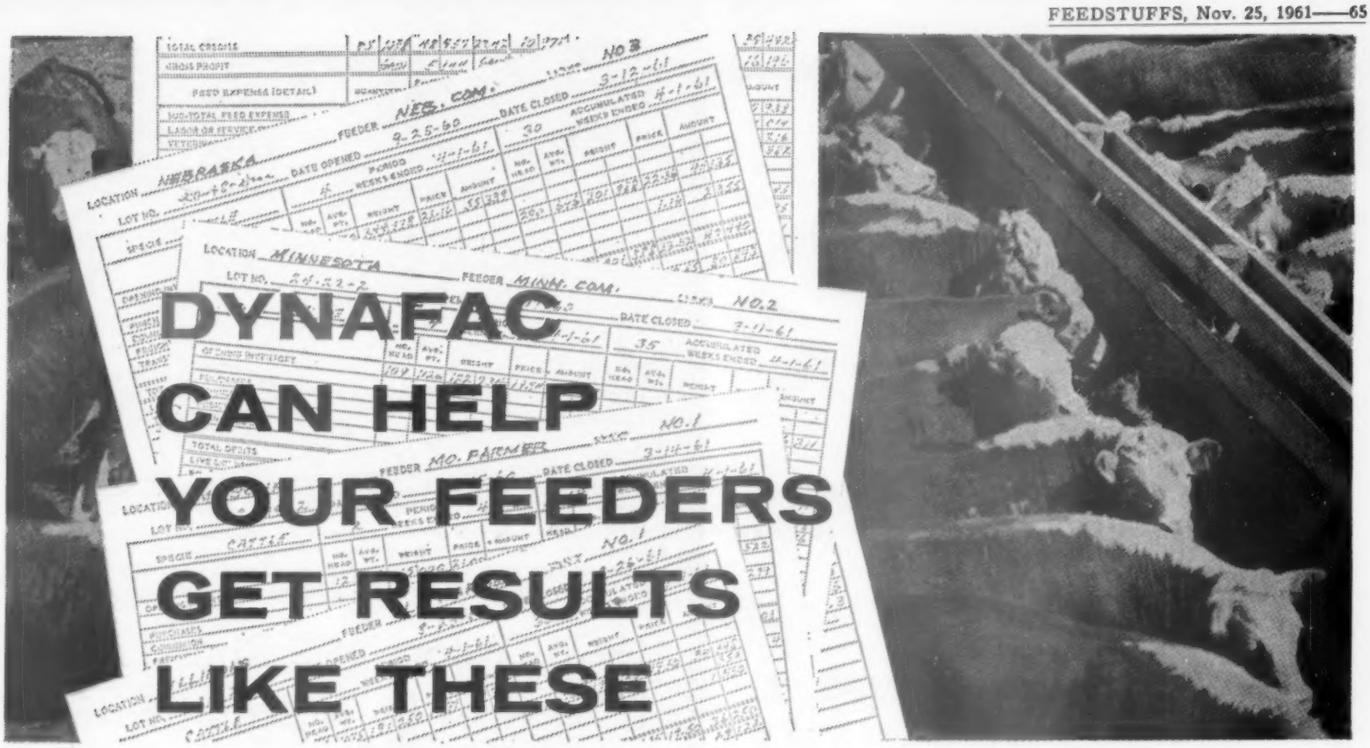

Dynafac-fed cattle show top feed intake and conversion ...at a feed cost of only 15.9¢ lb.

The figures below were based on the feeding of 6697 head of cattle in 24 feedlots located in widely-separated areas of the country

FEED COST (per lb. gain)		16.0¢	16.5¢	16.8¢	15.1¢	13.7¢
FEED CONVERSION (lb. feed/lb. gain)		9.5	10.5	8.5	8.7	20.2
DAILY GAIN (lb./head)		2.71	2.83	3.28	2.96	1.84
DAILY FEED INTAKE (lb./head)		25.6	29.6	27.9	25.6	37.1
NO. OF FEEDLOTS		3	9	2	7	3
NO. OF HEAD		1,223	2,255	466	2,005	848
TYPE OF RATION	(primary)	Corn	Corn	Corn	Corn	Corn Silage
	(secondary)	Alfalfa-Molasses	Corn Silage	Hay	Molasses	Corn

The above cattle on DYNAFAC showed:

- Excellent herd health (extremely low mortality, negligible veterinary costs)
- Consistently good appetites (above average feed consumption for type of ration day after day)
- Excellent feed conversions
- High daily gains
- Uniform results with both steers and heifers at various weights (weigh-in weights varied from 597 to 968 lb.)
- Extremely low feed costs
- High net profit
- Good results with both long- and short-term feeding

These results show the kind of performance your feed customers can get with DYNAFAC. With DYNAFAC in fattening rations to help control bloat and founder, cattle go on feed FAST and, most important of all, STAY ON FULL FEED throughout the finishing period! Offer DYNAFAC in your feeds.

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MERCK & CO., INC., RAHWAY, NEW JERSEY

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Complete Cereals Processed Specially for Pet and Small Animal Foods

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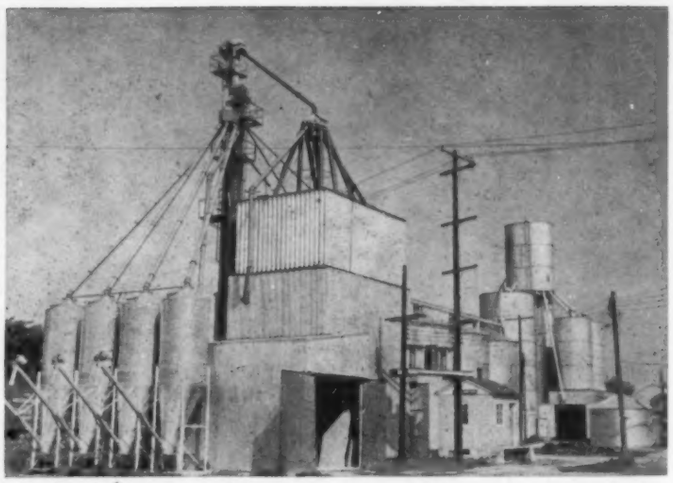

CUSTOM MILL—In this photo is the new custom mill and bulk station, foreground, of the Hoffman & Reed Farm Supply, Trenton, Mo. The addition of the custom mill rounds out the services to customers provided by the firm. The elevator, background, erected in 1954, has storage capacity of 78,000 bu.

New Custom Mill Rounds Out Services by Missouri Firm

By Al P. Nelson
Feedstuffs Special Writer

A well stocked farm supply store, a custom mill and an elevator with drying and grain storage capacity form a trade winning combination in these competitive days in grain areas.

This sort of combination is what the Hoffman & Reed Farm Supply, Trenton, Mo., now has with its new custom mill. Formerly the firm operated an outstanding farm supply store and the grain elevator. The missing link was a custom mill service. This has now been remedied, and feed sales have gone up considerably. Bulk feed delivery from the local plant now appeals to a growing group of customers, according to Frank Hoffman, manager.

The new mill is 25 ft. square, of metal construction, with eight inside bins over the mill. One is a nine ton bin and is used for ground grain. An 18 ton bin holds hog concentrate, another 18 ton bin holds cattle concentrate. Bulk bean meal is kept in one 18 ton bin, rolled corn in another, rolled milo in a nine ton bin, rolled oats in a nine ton bin and alfalfa meal in a nine ton bin.

Nutrena concentrates and complete feeds are handled here.

The mill has no hammermill but has a Roskamp double roller mill in a small metal room adjacent to the mill. The Roskamp is used for crimping grain, a service which is very much in demand by hog and cattle feeders in this area, reports Richard Dean, mill manager.

The mill has a two ton Prater mixer and a Bender hoist. There is a scale house adjacent with capacity of 30 tons which weighs grain for the custom mill and also for the elevator. The mill has a grain dump sink, and corn and other grains destined here can go direct to the double roller mill or into storage. The Hoffman

CHECKS EQUIPMENT—Dick Dean, mill manager for Hoffman & Reed, is checking Roskamp double roll equipment. The equipment is located in a small metal shed outside the new custom mill.

BULK STATION—A Hoffman & Reed Farm Supply truck is pictured loading at a bulk station alongside the custom mill. Two trucks handle grain hauling and feed delivery for customers of the Missouri firm.

MIXER—This is the mixing operation in the new custom mill of the Missouri firm. Workers are operating the Prater mixer.

& Reed Farm Supply has a grain bank plan which farmers like. It helps the firm get more regular processing volume from the area, says Frank Hoffman.

Outside the custom mill are four seven ton Butler round bins, equipped with delivery augers. One of these bins holds 40% hog pellets. The other three bins are used for holding ground feed for appointment patrons or complete feeds. Two Butler elevators are used in connection with these bins and the custom mill.

"Quite a number of customers phone in their orders," says Mr. Dean. "This means we can grind in advance, getting grain out of the elevator grain bank. Some customers take as much as seven tons of ground feed. Thus, the outside tanks come in very handy for dispatch of these feeds after storage. A farmer can come in and dump his grain for processing in the mill, while another farmer or our bulk truck can be taking processed orders out of the outside bins. This keeps the feed processing schedule moving."

Often farmers will bring in their grain and leave an order to grind and mix and deliver when processed, says Mr. Dean. If the farmer wants his grain hauled in by the custom mill crew the charge is 7¢ bu. The grind and mixing charge is 15¢ cwt.

"Most of our business in the custom mill is for dairy, hog, beef and sheep feeders," reports Mr. Hoffman. "We use dry molasses in some of our feeds. Since we have had the new custom mill we are processing a lot more feed than we formerly sold by bag lots from the store, or ordered delivered direct from the Nutrena distribution point. Our bag business has held up, too, particularly on dairy feeds. We find that this new plant really aids us in serving our customers better."

Mr. Hoffman tells of one large dairyman with 100 cows who asked the Hoffman firm to handle his grind and mix order for several times. This dairyman has an automatic grind and mix setup on his farm. However, he found that the system was not quite as automatic as claimed, and that quite a bit of additional labor was required to handle the feed production.

"We are serving this man the best way we can to try to show him we can handle his feed processing at a lower cost to him than he can get it through his automatic system," Mr. Hoffman states. "We hope we succeed."

The feed company has two Pamco trucks, combination bag-bulk type. The capacity of each is about seven tons. Thus, the equipment is ample to handle grain hauling and feed delivery.

Another service to customers here is that the firm buys eggs from farmers, candles them and markets them locally. Mr. Hoffman reports, however, that there are fewer small egg producers in the area than there were five years ago. He sells his eggs to area supermarkets, hotels, restaurants, etc.

More than a year ago, Hoffman & Reed Farm Supply joined other feed firms in the area in setting up new credit regulations. These firms sent out a joint letter which informed all farmers in the area that feed, fertilizer and farm supply sales were made on a 30 day basis, and that bills not paid during that time would be charged 1% per month interest rate.

This policy has improved the credit situation in the area, says Mr. Hoffman. His firm and others still have some delinquent accounts, of course, but the number has been greatly reduced. "All dealers in this region felt that some sort of uniform credit policy was needed," he said, "and so far it is working quite well."

SUPPLY STORE—This is a photo of the Hoffman & Reed Farm Supply store and warehouse. The firm at first operated the store and a grain elevator, and has now added a custom mill.

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GOOD Customers . . . all year 'round

SUPREME Brand
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NEW! PRESSURIZED PNEUMATIC BULK TRUCK CUTS DELIVERY COSTS

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Now you can have *more* carrying capacity, *faster* unloading and *increased* bulk delivery profits — with this new Sprout-Waldron *Pressurized* Pneumatic Bulk Feed Truck!

Airlock feeder and conveyor screws or belts are completely eliminated to slash upkeep costs and down time. Maintenance costs are cut as never before!

The new cylindrical design gives greater body strength with lower center of gravity for better roadability. Other advantages of this new Sprout-Waldron *Pressurized* Pneumatic Bulk Truck include improved, full hydraulic operating controls for compartment and discharge gates, hydraulic hoist. Easily accessible, simplified operating panel gives driver full one-point discharge control.

Pressurized system assures freedom from contamination, complete load discharge, no feed hang-up and less pellet breakage. Available with or without self-loader.

Check with your Sprout-Waldron representative for the full profit story — see for yourself why this is *the unit* for more profitable bulk deliveries. *Write for Advance Specification Sheet 233.*

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SHIPPING FEVER COSTLY? IT NEEDN'T BE!

And it isn't — to far-sighted feeders who cut stress effects by giving all newly-arrived cattle special feeds containing high levels of Aureomycin

Stress feeding with high levels of AUREOMYCIN® for all newly-arrived cattle—that's the protective, money-making measure more and more farm feeders and commercial feedlot operators are taking.

First few weeks critical period

Those first two or three weeks following the arrival of cattle are critical. Shipping leads to stress. Unloading and sorting add new stress. Changes in surroundings or in weather — new feeds and feeding methods — add still more stress.

Stress often brings on shipping fever, bacterial diarrhea, foot rot, secondary bacterial infections, subclinical or invisible diseases.

Build barrier against losses

Stress feeds with AUREOMYCIN help minimize losses from these diseases. Such feeds provide 350 milligrams of AUREOMYCIN per head per day — *and are fed until the critical period is past.* No antibiotic, chemobiotic, drug or hormone equals AUREOMYCIN in its activity against disease. Cattle getting stress levels of AUREOMYCIN *every* day come through the critical period strong and vigorous—go on full feed quickly. After the critical period, cattle can be continued all the way to market on feeds that provide 70 milligrams of AUREOMYCIN per head per day. This will keep them healthy and making profitable gains.

Aureomycin prevents shipping fever

In the table shown below, you can see the effectiveness of AUREOMYCIN in controlling respiratory diseases in cattle. In this experiment AUREOMYCIN was fed at the rate of 350 milligrams per head daily for 7 days, followed by feeding 70 milligrams per head for the remainder of the experiment. Note the high reduction (59%) in the number requiring treatment in the group fed AUREOMYCIN. This lot produced over 7,000 extra pounds of beef!

Ask for stress feeds containing Aureomycin

Your feed dealer can supply you with a specially-formulated stress feed containing AUREOMYCIN. Ask him for it. Ask him also for a new booklet, "How to Build Bigger Beef Profits." If he doesn't have a copy, write direct to American Cyanamid Company, Agricultural Division, Princeton, N. J. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

Effect of feeding AUREOMYCIN on control of respiratory disease in feeder cattle
(125-day trial in Colorado)

	Without AUREOMYCIN	With AUREOMYCIN	Difference
DISEASE CONTROL			
Initial no. animals	293	293	
No. requiring treatment	111	45	–59%
No. requiring re-treatment	28	11	
No. re-treatments	44	15	
No. deaths	2	1	
No. livers condemned	84	15	–82%

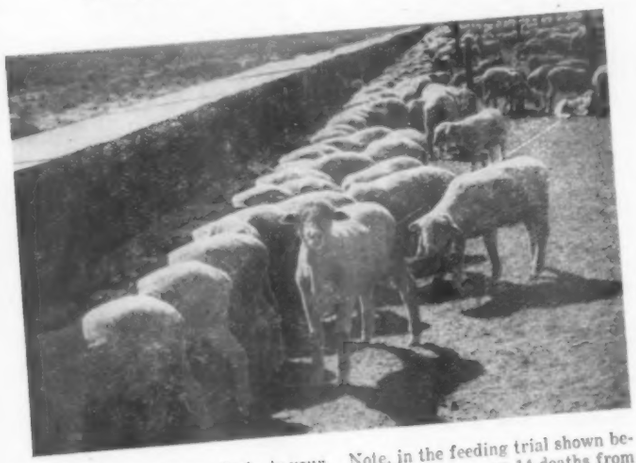
The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow their directions for use.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

ENTEROTOXEMIA COSTLY? IT NEEDN'T BE!

And it isn't — to profit-minded lamb feeders who prevent over-eating disease, keep lambs gaining fast, with feedlot rations containing Aureomycin



It *could* happen in your flock—to your biggest and thriftiest lambs. One night, they're in the pink of condition. Next morning, they're gone, suddenly struck down.

That's enterotoxemia, or overeating disease — hitting so fast and so fatally you can't do anything about it.

The time to *do something* is *before* enterotoxemia has a chance to strike. Take the preventive measures that keep this disease from being a constant threat to your yearly lamb profits.

One of the best of these measures is continuous feeding of a formula feed that contains AUREOMYCIN.® The extraordinary effectiveness of AUREOMYCIN in stopping losses from enterotoxemia has been demonstrated repeatedly in feeding trials with feedlot lambs.

Note, in the feeding trial shown below, that there were 14 deaths from enterotoxemia in a group of feeder lambs *not* fed AUREOMYCIN — no deaths in a group which were on rations containing AUREOMYCIN.

One of the reasons for the effectiveness of AUREOMYCIN is this: *AUREOMYCIN is absorbed from the intestinal tract into the bloodstream and into the body tissues. There it fights and holds back the bacteria causing enterotoxemia.*

Ask your feed manufacturer or feed dealer for lamb feeds containing AUREOMYCIN. Stop losses due to enterotoxemia. Get low-cost gains all the way — and extra returns at market. American Cyanamid Company, Agricultural Division, Princeton, N. J. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

Value of AUREOMYCIN in reducing losses from enterotoxemia and promoting low-cost gains in fattening lambs

	Without AUREOMYCIN	With AUREOMYCIN 20 gm/ton
No. of lambs	199	200
Av. initial wt. (lb.)	51	62
Av. final wt. (lb.)	91	95
No. deaths	14	0
Av. daily gain (lb.)	0.60	0.66
Feed per lb. gain (lb.)	9.1	8.44

Cyanamid Exp.

The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow directions for use.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

CYANAMID HELPS YOU PROBE DEEPER INTO AN EXPANDING MARKET

That's the market for special feeds to counteract stress and disease in feeder beef and lambs. Cyanamid advertising, promoting these feeds, is now appearing in all the principal feeding areas.

How much *more* volume can manufacturers get on special supplements for feeder cattle and lambs?

"Plenty!" say most authorities. Though the demand for these feeds has grown, and is still increasing yearly, the big market remains largely untapped.

More education—more facts—on the dollar-return value of these feeds is needed. Cyanamid supplies these facts, and helps you probe deeper into the market, with advertisements aimed directly at the areas where most cattle and lambs are fed.

These advertisements feature the two diseases most costly to cattle and lamb feeders—tell what your supplements containing AUREOMYCIN® can do to offset these diseases, keep animals healthy and gaining.

In addition to this farm paper advertising, 11 Radio Farm Directors on stations in the feeder areas will be telling your customers — in 35 announcements per week — about the benefits of feeds containing AUREOMYCIN for feeder cattle and lambs.

If you are now making supplements containing AUREOMYCIN for cattle and lambs you will want to tie your promotions in with these advertisements. If you are not making such feeds, why not plan to do so and get in on the expanding market? See your Cyanamid representative who will be glad to work with you. American Cyanamid Company, Agricultural Division, Princeton, N. J. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

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Wall Chart Available . . .

1961 FEEDSTUFFS ANALYSIS TABLE

Prepared and Copyrighted by

Charles H. Hubbell, Feed Consultant, Chicago

The 1961 Feedstuffs Analysis Table, showing the analysis of more than 80 feed ingredients, is available in a large size for posting on the wall for handy reference.

The table includes data on protein, fat, fiber, mineral, energy, vitamin and amino acid content of ingredients used in feed formulation.

The large size table is 20 by 29 inches. It is available at a price of $1.00 per copy.

FEEDSTUFFS P.O. Box 67
Reader Service Department Minneapolis 40, Minn.

Please send ..... copy(ies) of the large size Analysis Table for which payment at $1.00 per copy is enclosed.

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LAYERS ON TEST — Observing layers in experimental egg operation at Texas A&M College during recent Texas Nutrition Conference are, from left: Dr. E. F. Waller, director, extramural research in animal husbandry, Sterling-Winthrop Research Institute, Rensselaer, N.Y.; Dr. J. H. Quisenberry, head, poultry science department, Texas A&M; Dr. John Stroud, technical representative, Pabst Brewing Co., Milwaukee, and Dr. H. R. Bird, head, science department, University of Wisconsin.

Texas Nutritionists Say:

'Phase Feeding as Important For Layers as for Broilers'

By FRED E. TUNKS
Feedstuffs Staff

COLLEGE STATION, TEXAS — It's done for broilers, so why not do the same for layers?

This question doesn't mean much sans details, but imagine you asked it during the recent Texas Nutrition Conference amidst poultry nutritionists before they took turns on the dais to talk about the protein or amino acid requirements for layers.

They would have told you on the spot or later when they addressed you and others in their audience that it looks as though there are more reasons for than against formulating rations for layers as they are for broilers, that is, according to different nutritional needs during short and specific phases of production or growth.

You would have heard them say that changing the composition of the layer's diet as she progresses in the laying season is just as important as adjusting the broiler's diet as he grows his way to market weight.

They would have told you that tests indicate that phase feeding of layers can save the producer money.

"For maximum feed efficiency and egg production, we must have a 'starter,' a 'developer' and a 'finisher' for the pullet," Dr. J. H. Quisenberry, head of Texas A&M College's poultry science department, observed. "Results of testing such a layer feeding program last year look promising, and with further refinements we will be able to substantially lower the feed cost per dozen eggs."

An experiment was set up at Texas A&M to determine what effects changes in dietary protein levels during the production year would have on performance and what the effects on the cost per dozen of 24-oz. eggs would be. Also included in this experiment was a comparison of diets made up from all-plant protein sources and those with a mixture of plant and animal protein. For the comparisons, two protein levels—18 and 14%—were used.

The experiment indicated that the all-plant protein diet gives better performance than the mixed animal and plant protein. "On the other hand," Dr. Quisenberry noted, "when the 18% protein diet is fed, the mixed protein source appears slightly superior to the all-plant protein."

In regard to changing the protein level of the diets as the production period advanced, Dr. Quisenberry stated: "Starting at 18% protein and reducing 1% each two months until 16% is reached and then dropping to 14%, as well as starting with a 14% all-plant protein diet and increasing to 18%, proved equal to an 18% diet throughout the 12 periods. The 14% diet of mixed protein source was definitely inferior to the other diets. Starting with the 14% mixed protein source and increasing to 18% showed some improvement but was not equal to starting with 14% all-plant protein and increasing to 18%."

Combining the effects of the protein level on rate of production, egg size and feed efficiency into one value—the ingredient feed cost per dozen of 24-oz. eggs—Dr. Quisenberry and his co-workers obtained the following results:

Protein Level and Source, %*	Ingredient Cost/ 100 lb., $	Ingredient Cost/Doz. 24-oz. Eggs, cents
18-A Throughout	2.96	10.72
18-A to 14-A	2.85	10.64
18-B to 14-B	2.86	10.97
18-B Throughout	2.97	11.65
14-A Throughout	2.79	11.61
14-A to 18-A	2.91	11.37
14-B to 18-B	2.92	10.92
14-B Throughout	2.80	11.03

*"A" refers to diets with both animal and plant protein; "B" refers to all-plant protein diet; 18 to 14 refers to 18% for two months, 17% for two months, 16% for two months and 14% for six months; 14 to 18 refers to 14% for two months, 16% for two months, 17% for two months and 18% for six months.

Dr. Quisenberry noted that this information shows that starting pullets

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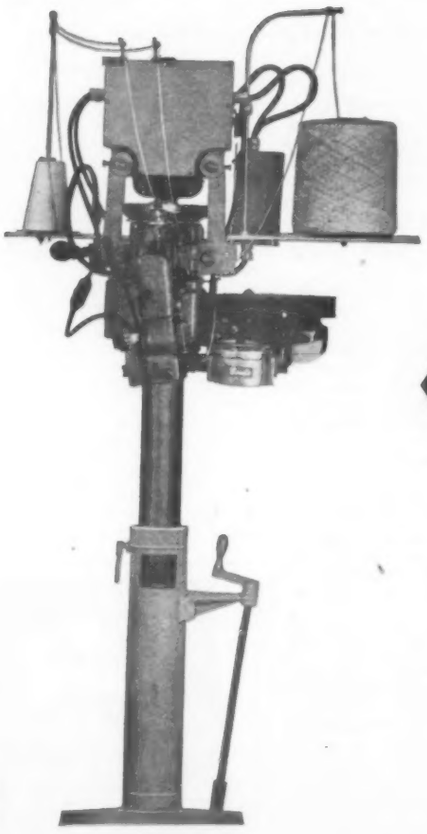

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Mounted on a Bemis sewing pedestal, the Bag Top Printer shown at left imprints a bag as it is being sewn closed. In operation, an attendant simply leads the edge of the bag into the printing guide. The bag is then coded. An actuator starts the sewing head to sew the bag. The thread is automatically cut when the bag leaves the sewing head.

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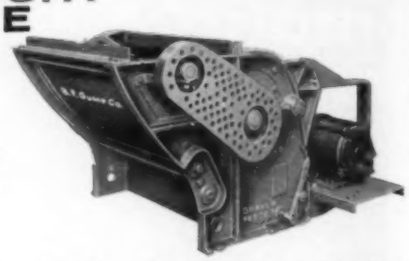

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Reprints Available . . .

1961 FEEDSTUFFS ANALYSIS TABLE

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Reprints of the Analysis Table and the notes that accompany it may be obtained at these prices:

Single copy	20c
3 to 5 copies	10c each
10 or more	5c each

(Colleges and experiment stations will be furnished a reasonable number of reprints for their own use free of charge on request.)

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SELLIN' SAM — By Jim Zilverberg

"Better take this, too—just in case a farmer picks you up!"

at 18% protein and gradually lowering the level as the production period advanced not only resulted in a lowering of feed cost per unit of eggs, but also saved considerable protein in the process.

Protein change was effected by interchange substitution of milo and soybean oil meal, and the diets were not kept isocaloric.

"Further refinement of this procedure is essential before final recommendations can be made," Dr. Quisenberry noted. "Both protein and energy levels should be changed as the production period advances. The high protein level during the early part of the laying period increases body and egg weights so that fewer small eggs will be produced. Increased energy level combined with a higher protein level tend also to increase body and egg weights. Lowering these as the laying season advances tends to reduce the egg size late in the production period, which is another desirable feature of this feeding program."

Dr. Quisenberry reported also that supplementation of low protein diets with lysine and methionine and combinations of these amino acids in another experiment offered some promise for ways to lower feed costs for egg production and also to stretch protein supplies.

(Also see article by Dr. Quisenberry in the Oct. 14 issue of Feedstuffs.)

Adequacy of Feed

The adequacy of a particular feed, emphasized Dr. R. E. Davies, Texas A&M poultry science department, is determined by the protein intake of the hen rather than the protein level in the diet.

"Various factors will affect the amount of feed consumed by a hen, and thus the amount of protein acquired from a particular diet," he said. "Since it appears that the hen generally eats to meet her energy requirements, the energy content of the diet will greatly affect protein intake. This is the much-argued question of Calorie-protein ratio, which has been advocated and discounted by various groups of workers."

Dr. Davies reported that it is apparent from Texas experiments that the ratio was of relatively little importance as long as the birds were capable of consuming at least 17 gm. of protein per day. However, wide ratios resulted in a marked decrease in protein intake and a concurrent decrease in egg production.

Dr. Davies noted that there have been a number of reports indicating that satisfactory results can be obtained with as little as 13% protein in diets for light breed hens. Other investigators, however, have indicated that levels as high as 17% may be necessary for optimum production.

Another factor of importance in connection with the protein requirements of laying hens may be the energy needs of different strains of birds or other variables affecting the total feed intake of different strains.

For example, the results of four experiments with inbred hybrid laying hens indicate relatively uniform performance at a particular protein intake. On the other hand, a comparison with the results of en experiment with a pure line of single cross White Leghorn hens indicates that these birds produce at a slightly lower rate at the same protein intake. The most notable difference, however, as pointed out by Dr. Davies, is that none of the birds in the experiment were able to consume as much as 18 gm. of protein per day, even though their diets contained 17% protein and had moderate Calorie-protein ratios (56:1 or 66:1). Overall production in this experiment was appreciably lower than that of the hybrid hens possibly due, in part, to the inability of these birds to obtain sufficient protein at the 17% level.

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Despite the almost annual introduction of new coccidiostats...

nfz® and *bifuran* still come closest to what you and your customers look for in a coccidiostat for replacement birds!

During the last few years — amid a lot of fanfare and promises — several new coccidiostats have been introduced to the feed industry.

While some have started off well, they have failed to live up to their advance billing. Not one has solved the coccidiosis problem.

Unfortunately, there is *still* no such thing as a perfect coccidiostat. We don't have one . . . and neither does anyone else.

But here's a point worth noting: While many heralded coccidiostats have come and faded away, *nfz* and *bifuran* have continued in demand for replacement birds. In fact, use of these two products in replacement feeds is growing.

No registration headaches — One reason behind the increasing demand for *nfz* and *bifuran* is the fact that you can use either of these coccidiostats *without registration problems.* They are not new drugs and are cleared for use in combination with almost all commonly used additives.

But a more basic reason is found in a recent survey in which feed manufacturers were asked, "What do you look for primarily in evaluating a coccidiostat for replacement birds?" The survey shows *nfz and bifuran come closest to providing the benefits wanted.*

Considered by far the most important feature of a coccidiostat for replacement birds is the building of "lifetime immunity" . . . followed by the "safety" of the drug. *nfz* and *bifuran* deliver both of these major benefits . . . plus many additional features that distinguish them from other coccidiostats. Following is the complete *nfz* and *bifuran* protective package:

Lifetime immunity to coccidiosis by housing time... that's a "must" for replacement birds. Both *nfz* and *bifuran* allow lasting immunity development, the natural way—by permitting a mild, controlled infection during the growing period.

Safe, nontoxic — Neither *nfz* nor *bifuran* has harmful effects on internal egg quality, shell texture, hatchability or fertility. Unlike most other commonly used coccidiostats, *nfz* and *bifuran* can be safely fed to laying hens. Also, these two medications are nontoxic to livestock and pets.

Control outbreaks — You can raise the *nfz* or *bifuran* intake to the coccidiosis treatment level...safely... without bringing in another drug. This is not possible with some coccidiostats.

Antibacterial — In addition to aiding in the lifetime immunity process, *nfz* and *bifuran* knock out many secondary infections that can sap vitality, cause nonproductive runts and culls. They give you more than just coccidiosis protection.

Effective against pullorum — By increasing the *nfz* or *bifuran* level to 3 lbs. per ton of feed for 10 to 14 days, you can prevent mortality from pullorum. There's no need to come in with other drugs.

In the light of current registration headaches and confusion about coccidiostats, we wanted to remind you that perhaps *nfz* and *bifuran* can help solve problems for you. They are still doing the same effective job of controlling coccidiosis and allowing immunity they've always done.

For an *nfz-bifuran* reviewing session, get in touch with your Hess & Clark representative.

Effective against necro in pigs

While you have nfz or bifuran in your mill, here's another use for the same medication. nfz (at a level of 10 lbs. per ton of feed) and bifuran (at an 8-lb level) are effective, low-cost treatments for infectious necrotic enteritis in pigs. Self-fed to the entire herd for 5 to 7 days, these drugs prevent disease damage and allow the pigs to overcome the disease drag of necro.

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DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7768—Larger Calf Tablet Jar

Hess & Clark's calf scour tabs are now being offered in a new, 50-tab, unbreakable plastic jar, the firm has announced.

The larger quantity jar enables the firm to offer the tablets to dairy farmers for 25¢ per tab, $12.50 per jar of 50, according to the company. The tabs are also available on a four-tab card which retails for $1.39.

Also, during November and December, dealers will receive a free Taylor indoor-outdoor thermometer certificate with each six-jar case of the 50-tab jar. Accompanying the introductory offer on the new package is a coupon in each bottle enabling the purchaser to obtain a free thermometer, which usually retails for $1.98. Hess & Clark two-way calf scour tabs are used to treat both bacterial pneumonia and bacterial diarrhea in calves.

For additional information check No. 7768 on the coupon and mail.

No. 7771—Brochure on Drum Separators

A six-page brochure describing a line of permanent magnetic drum separators used for automatic separation of iron contamination from bulk materials is being offered by Eriez Manufacturing Co.

The illustrated bulletin contains specific information on magnetic drum separators from 12-36 in. diameters and 8-60 in. widths. Principles of magnetic drum operation and how to select correct separating units are included. There are pictures of installations and engineering drawings and a chart showing specifications and dimensions.

For additional information check No. 7771 on the coupon and mail.

No. 7769—Building Lining Material

Insulating and protective properties of paper and plastic are combined in Sisalkraft "Tri-Pli," a new material for lining poultry and livestock buildings. The product is manufactured by American Sisalkraft Co., division of St. Regis Paper Co., using

tenite polyethylene supplied by Eastman Chemical Products, Inc.

Composed of reinforced paper, laminated on both sides with 1½ mil film of tough, white tenite polyethylene, the material, said to be rip and tear resistant, is exceptionally effective as a vapor barrier in structures requiring protection against humidity and high moisture, according to the manufacturer.

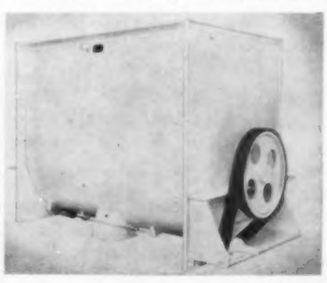
When used as an inside lining in pole-type barns built with corrugated metal roofing and utilizing batt insulation, the material prevents drafts and wind seepage and protects the insulation from deterioration, the manufacturer says.

For additional information check No. 7769 on the coupon and mail.

No. 7767—New Mixer Model

Rapids Machinery Co., manufacturer of Marion horizontal mixing equipment, is introducing a new line of mixer designated the "Short Model." The new mixer features increased capacity, less horsepower and requires less floor space, the manufacturer states.

It can be used for mixing dry ma-



terials or blending dry materials with liquid additives such as molasses, fish solubles, animal fats, etc.

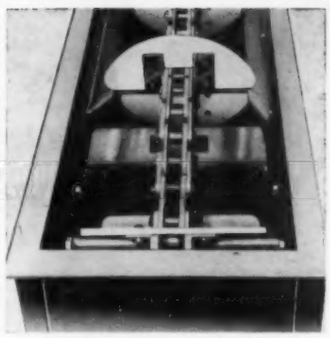
Due to the liberally rated capacity, the unit is said to be particularly suited for mixing bulky materials, either dry or with liquid additives. The new model is available in capacities of one ton, 1½ ton, two ton, three ton and five ton sizes.

For additional information check No. 7767 on the coupon and mail.

No. 7770—Drag-Type Conveyor System

A drag-type conveyor system which is said to automatically clean itself as it operates, has been introduced by Industrial Machinery Co. The system, designed to handle all types of dry, free-flowing materials, can be used for numerous industrial applications ranging from feed processing plants to cement plants.

Features of the conveyor, as listed



by the manufacturer, include ability to move material with less horsepower, built-in protection against detracking of conveyor flights or conveyor chain, complete elimination of metal-to-metal contact at any point in the system except at the sprockets at each end of the conveying trough, ability to automatically clean itself as it operates and "virtually 100% maintenance free operation."

For additional information check No. 7770 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7711—Portable loader, Ft. Worth Steel & Machinery Co.
No. 7712—Livestock tablets, Myzon Laboratories.
No. 7713—Poultry house heater, Electronics, Inc.
No. 7714—Antibiotic treatment for livestock, Abbott Laboratories.
No. 7715—Grain drier literature, Aeroglide Corp.
No. 7716—Steam generator, Clayton Manufacturing Co.
No. 7717—Steel building booklet, The Columbian Steel Tank Co.
No. 7718—Bulk feed bin, Chore-Boy Manufacturing Co.
Grain Moisture Study, Radson Engineering Co., Macon, Ill.—25¢
No. 7719—Self-service rodent killer, Vineland Laboratories.
No. 7720—Portable pneumatic conveyor, The Buhler Corporation.
No. 7721—Mobile feed mill route literature, Seco, Inc.
No. 7722—Service and equipment brochure, General American Transporation Corp.
No. 7723—Grain drying bulletin, Farm Fans, Inc.
No. 7724—Grain temperature probe, Douglas Chemical Co.
No. 7725—Plastic egg collection flat, Automatic Poultry Feeder Co.
No. 7726—Scale control system, Cardinal Scale Manufacturing Co.
No. 7727—Pig starter additive, Thompson-Hayward Chemical Co.
No. 7728—Molasses pellet mill, Sprout, Waldron & Co., Inc.
No. 7729—Poultry house plans, Keen Manufacturing Corp.
No. 7730—Hog disease control guide, Vineland Laboratories, Inc.
No. 7731—Baler twine, Shellbuilder Co.
No. 7732—Polyvalent bronchitis fraction, Delaware Poultry Laboratories, Inc.
No. 7733—Protein concentrate, Knudsen Creamery Co.
No. 7734—Dehydrated alfalfa booklet, American Dehydrators Assn.
No. 7735—Formulation service, Peter Hand Foundation.
No. 7736—Continuous flow grain dryer, Ace Supply & Equipment Co., Inc.
No. 7737—Literature on die cover, Sprout, Waldron & Co., Inc.
No. 7738—Portable moisture tester, Seedburo Equipment Co.
No. 7739—Booklet on dehydrated alfalfa, American Dehydrators Assn.
No. 7740—Polyethylene valve insert, Union Bag-Camp Paper Corp.
No. 7741—Grain storage building, Butler Manufacturing Co.
No. 7742—Premix convenience pack, Vit-A-Way, Inc.

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- ☐ No. 7768—Calf Tablet Jar
- ☐ No. 7769—Lining Material
- ☐ No. 7770—Conveyor System
- ☐ No. 7771—Drum Separators

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No. 7747—Poultry vaccines, L & M Laboratories.
No. 7748 — Automatic clearing valve, Myers-Sherman Co.
No. 7749 — Slide diverter valve, Sprout, Waldron & Co., Inc.
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No. 7763—Feed phosphate film, International Minerals & Chemical Corp.
No. 7764—Hog farrowing unit, Big Dutchman Automatic Poultry Feeder Co.
No. 7765—Tracer technique brochure, Micro Tracers, Inc.
No. 7766 — Feeder specification data, B-I-F Industries.

Vitamin E Volume Being Distributed

NEW YORK—A new 180-page annotated bibliography of vitamin E, fifth in a series written by scientists of Distillation Products Industries, a division of Eastman Kodak Co., is now being distributed by the National Vitamin Foundation headquartered here.

The new volume, by Dr. David C. Herting, Wilma F. Kujawski, Marion I. Ludwig and Dr. Philip L. Harris, covers research on vitamin E carried out from 1958 through 1960. Research interest has increased continually until output of scientific papers on vitamin E is now about eight per week, the report points out.

More than 1,000 papers that illuminate details and over-all aspects of the growing knowledge of vitamin E were abstracted for the bibliography, the foundation explained.

The volume includes reports on studies of biological responses to the vitamin, human requirements for it, and its relation to the mechanism of cell respiration.

The bibliography is divided into seven sections on occurrence and distribution, determination, chemistry, physiology and pathology, pharmacology, nutrition and metabolism, and medical and therapeutic use.

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Corrugator to Africa

OKLAHOMA CITY, OKLA. — A Ross high-speed, hydraulic corrugator has been custom-made and is being shipped to Nigeria, Africa, by the Ross Machine and Mill Supply Co., Oklahoma City.

This type corrugator was the first machine every made for high-speed corrugating of flour mill rolls. It was designed and built in 1939 by the late C. R. Ross, company founder.

Economists to Speak

MANHATTAN, KANSAS—"A Forum for the Future" is the theme of the fifth annual Ag Business Days to be held at Kansas State University, Manhattan, Dec. 4-5.

Some of the nation's outstanding economists will discuss economic change and the problems which arise, and will suggest some possible solutions, according to Paul Kelley, chairman of the committee.

Texas Agricultural Experiment Station:

The results indicate that by substituting soft phosphate to the diet for dicalcium phosphate at gradient levels the blood level of terramycin increases. The substitution of soft phosphate for dicalcium phosphate at a level which will supply .243 to .485% phosphorus resulted in a blood level of terramycin which was approximately twice the level noted when dicalcium phosphate was used to supply .485% phosphorus. This was true both in the presence and absence of TPA. There were no significant differences in weight gains or food efficiencies.

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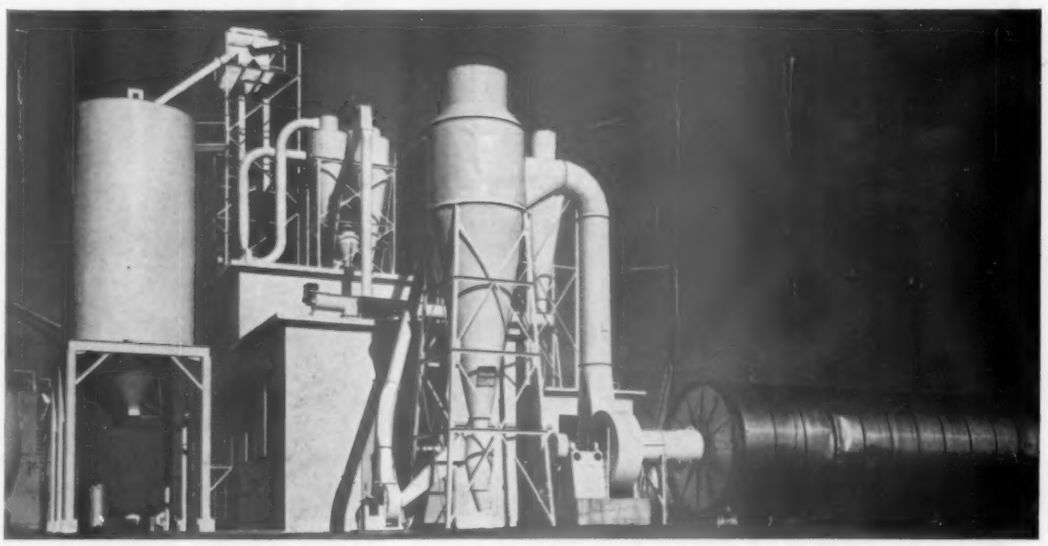

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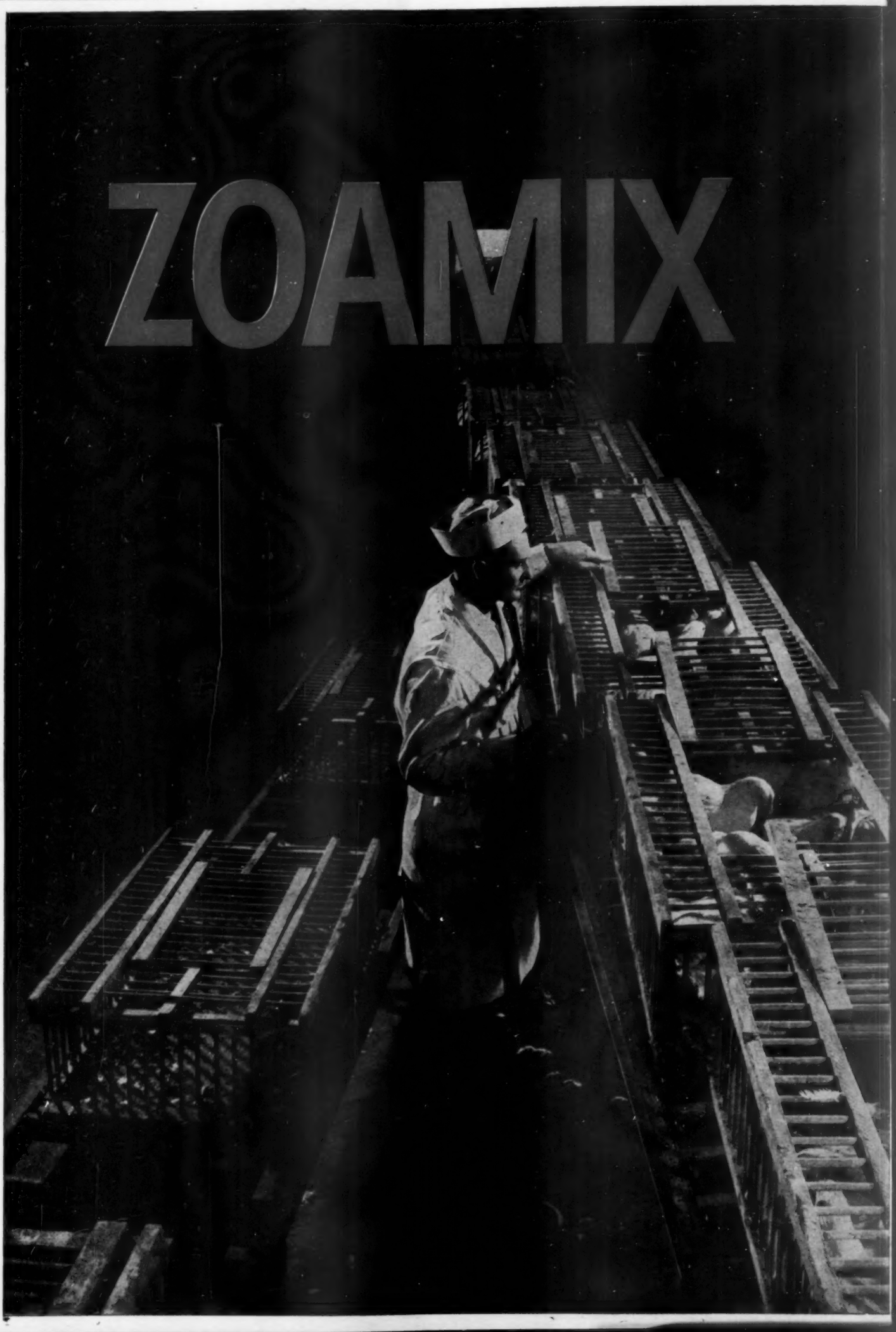
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Free educational film. "Chemicals: Vital to Our Food Supply," a 22-minute sound and color story of the contributions of chemicals to mankind, is now available for screening or group showings. Film has many references to the poultry industry. For bookings, contact your Dow Feed Industry sales representative.

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Pelleting, Concentrate-Roughage Ratio Among Topics at Texas Beef Conference

COLLEGE STATION, TEXAS — Beef cattle topics ranging from the influence of pelleting on the performance of growing and fattening cattle to the frequency of feeding protein supplements to range cattle were included in the program of the 11th Beef Cattle Short Course of Texas A&M College.

Titles of talks reported here are: "Effect of Pelleting and Concentrate-to-Roughage Ratios for Growing and Fattening Cattle," "Feed Additives in Beef Cattle Rations," "Effects of Plane of Nutrition on Growth and Productivity of Beef Females," and "Frequency of Feeding Protein Supplements to Range Cattle."

EFFECT OF PELLETING AND CONCENTRATE-TO-ROUGHAGE RATIOS FOR GROWING AND FATTENING CATTLE—Tests have repeatedly shown that pelleting will improve the value of certain roughages for cattle and sheep, but we have not been able to improve a fattening ration by pelleting, said Dr. L. S. Pope, professor, department of animal husbandry, Oklahoma State University.

"Hence, we are missing a real opportunity since most grains in fattening rations must be ground anyway, and the pelleting process would add little to the cost," commented Dr. Pope.

The Oklahoma State professor said that despite its values in roughage, pelleting has not become widely used due to the difficulty and cost of the operation with roughages. He said, "The whole future of pelleting is stymied until we can harvest and process the roughage into cubes or wafers, right in the field, without incurring the additional expense of first harvesting and storing the roughage."

He continued, "With all-roughage rations, we usually get a marked boost from pelleting. Numerous studies have shown that this is due to a combination of several factors. Greater feed intake, improved palatability and increased density, or less volume of feed, are prime factors. Another is increased rate of bacterial breakdown of feeds due to fineness of grind and greater surface area exposed to bacterial action. This results in a more rapid clearance of ingesta from the rumen and reticulum, permitting more feed to be taken in during a 24 hour interval.

"Also, the animal expends less energy in mastication and rumination. There is less waste of energy from fermentation of cellulose in the paunch, and less 'work of digestion.' In a sense, then, the mechanical process of pelleting substitutes for animal effort. Important chemical changes also may take place in the feed during the pelleting process. High temperatures and pressures of over 20,000 lb. per square inch are imposed during the pelleting process. These may alter the chemical nature of the feed, resulting in a different type of fermentation and yield of end products from bacterial action. In turn, this might lead to more efficient use of the feed.

"With a greater intake of nutrients above the daily maintenance needs of the body, marked increases in efficiency and rate of gain follow. Also, where the roughage in long or chopped form is unpalatable and the protein needs of the animal are not met, pelleting may greatly improve the feeds, simply by meeting the animal's needs from increased intake. The over-all improvement from pelleting may be due to a combination of any, or all, of the above factors.

"Unfortunately, pelleting exerts a different effect as we increase the level of concentrate in the ration. Rations containing over 60% grain or concentrate are actually less valuable in cubed form than when fed loose. Feed intake drops off and rate of gain declines slightly. However, feed efficiency is often improved, possibly because of a more efficient use of the slightly lower intake of the pelleted feeds.

"It is unfortunate that this effect occurs, for we can easily process a highly concentrated ration, or ground grain, into a pellet. To grind and pellet a roughage, on the other hand, is difficult and costly. Hence, we have shown little advantage for pelleting a fattening ration.

"Research to date has not shown why such an effect occurs—although one theory is that the rapid intake of pelleted concentrate promotes the formation of certain acids which, in turn, depress appetite. Attempts to control or modify the more acid condition of the rumen when pellets are fed, however, have not been encouraging."

Dr. Pope commented that whether it finds general use or not, pelleting has been a valuable "tool" to the research. He said, "It has marked the first time since the importance of protein and balanced rations was advanced nearly 50 years ago that a beef nutritionist has been able to increase the yield of beef per ton of feed by 25% or more. As we learn more about the effects of pelleting, we may adapt the results to unpelleted feeds and rations. The biggest advantage of pelleting may not be what we are able to do with it in practice, but what we may learn from it that can be used tomorrow in conventional rations."

On the subject of concentrate-to-roughage ratios, Dr. Pope stated that

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CO-OP PROUD OF MORE FOR LESS RECORD

HAYWARD, CAL.—The Hayward Poultry Producers Assn. came up with a significant bit of data following a recent in-depth study of its annual performance.

Announced the co-op: " . . . total number of association employees is now 45, including all production, office and administrative personnel.

"This is 15 less than in November, 1958, and the total production is now 87% higher than at that time."

low grain costs have encouraged feeders to use as much grain as possible with as little roughage as necessary. He said that "bulk" may be imparted to rations through steam-rolled grains, such as barley, and other factors normally supplied by roughage can be included in a complex supplement. Thus, he said, highly concentrated rations or even all-concentrate rations become possible.

He cited research figures to show trends in all-concentrate feeding, as follows:

Average daily gains are not greatly increased, if improved at all, after a concentrate-to-roughage ratio of 3:1 is achieved. This is due to the fact that feed intake falls off as the level of concentrate is increased beyond a 50-50 mixture. Hence, the actual energy intake from the more concentrated ration is not increased as much as we would expect.

The total feed required to produce 100 lb. gain declines as the ration becomes more concentrated. Since a larger portion of the ration is made up of concentrates, it follows that although the total feed per hundredweight gain is decreased, the actual amount of grain needed becomes greater than at lower levels. But, the increase in grain is more than compensated for by reduced roughage needs.

The fact that less total feed would be needed by the cattle (4.1 lb. less per head daily for 5:1 vs. 1:1 ratios) means a sizeable reduction to a commercial feeder with 5,000 cattle on feed; in fact, it would mean nearly 11 tons less feed to process and deliver each day.

Carcass grade and yield in most tests can be improved by increasing the ratio from 1:1 to a 2 or 3:1 level, but are little affected thereafter. Marbling, where it has been reported, shows little advantage for mixtures above the 3:1 ratio.

Dr. Pope noted, "When all the roughage is removed from a conventional ration, a considerable change in nutrient content occurs." He pointed out that calcium level drops precariously low, the Ca:P ratio is shifted abnormally, and vitamin A is devoid except where yellow corn is used.

FEED ADDITIVES IN BEEF CATTLE RATIONS—Vitamins, hormones, antibiotics, tranquilizers, thyroid inhibitors, enzymes, trace minerals and amino acids were sub-topics in this talk given by P. T. Marion, superintendent, Spur (Texas) Substation, Texas Agricultural Experiment Station.

In the area of vitamins, Mr. Marion limited his talk to vitamin A, which he said is the principal concern of cattlemen. He commented, "The recent practice of feeding high concentrate rations with small amounts of roughage and no source of vitamin A has caused a renewed interest in this vitamin. Levels of 20,000 I.U. of vitamin A per head daily are fed in Arizona feedlots on dry rations. Silage rations were thought to supply adequate amounts of carotene, but recently it has been discovered that nitrogen fertilizers cause a destruction of carotene in corn and sorghum. In a current experiment at the Spur station, steer and heifer yearlings fed 30 to 40 lb. of silage per head daily pant and slobber on hot days while those receiving 40,000 I.U. of vitamin A per head daily are affected only slightly by the heat.

On the subject of hormones, Mr. Marion said, "The most sensational increases in performance of beef cattle have been produced by addition of hormones or hormone-like materials. Stilbestrol mixed in the feed at a level of 10 mg., or implanted at the rate of 24 to 36 mg. in the ear of steers, has increased average daily gains in the feedlot 0.25 to 0.5 lb. It has been effective with high roughage rations as well as high concentrate rations."

On antibiotics, Mr. Marion said, "Terramycin and Aureomycin are two of the most common antibiotics used in beef cattle rations. Usually the greatest increases in gain have been obtained from adding these antibiotics to high roughage rations at levels of 70 to 80 mg. per head daily. These increases usually amount to about 0.2 lb. per head daily and additional gains of 0.7 lb. have resulted from combinations of stilbestrol with these antibiotics. This combination of stilbestrol and an antibiotic has reduced side effects, improved carcass quality, made more consistent gains throughout the feeding period than stilbestrol alone. Both of these antibiotics have given beneficial results in creep feeds for calves, and high levels added to the water or feed have reduced losses from shipping fever.

"Ilotycin is another antibiotic which has given results equal to those obtained from Terramycin and Aureomycin, but it is more expensive and has not been used in commercial feedlots. Penicillin, bacitracin, oleandomycin, hygromycin and the 'chemobiotic' dynafac are other antibiotics

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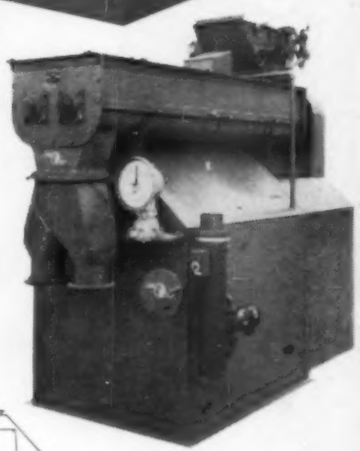

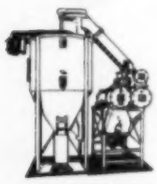

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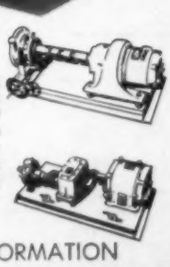

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which have been tested in beef cattle rations with various degrees of success."

In regard to tranquilizers, Mr. Marion said, "Many tranquilizers have been used as feed additives for beef cattle, but most of the experimental results have been inconsistent. At present time only one tranquilizer, hydroxyzine, has been used to any extent in commercial feedlot rations. Some experiments have shown increased gains and feed efficiency on the basis of feedlot weights, but the increases in carcass weight were too small to be significant. The feeding of 2.5 mg. of hydroxyzine per head daily has been more effective than 5.0 mg., 10.0 mg., or higher levels. Other tranquilizers which have been tested include tetrahydrozoline, reserpine and perphenazine.

Speaking on thyroid inhibitors, the substation superintendent said a drug known as Tapazole has been used, and the lower levels fed have not affected the palatability of the ration as was the problem with earlier drugs. However, Mr. Marion said that the drug is effective for only 60 to 70 days, and it is fed at the end of the feeding period to stimulate gains and produce more finish on steers which have been fed stilbestrol. He indicated that results are inconsistent.

Turning to enzymes, Mr. Marion said that there have been no outstanding results from the use of enzymes in beef cattle rations.

Taking a look at trace minerals, he stated that most of the work in Texas has given negative results. Where deficiencies have been discovered, it is profitable to include them in rations, he pointed out. But, over-feeding of these elements where not required can depress growth rate, he commented.

The final additive discussed by Mr. Marion was amino acids. He said that recent reports indicate that the amino acid lysine may be required in rations under certain conditions.

EFFECT OF PLANE OF NUTRITION ON GROWTH AND REPRODUCTIVE PERFORMANCE OF BEEF FEMALES—Dr. Pope reported the following findings from studies at the Oklahoma station:

(1) Winter feed levels that allow a weaner calf to make no gain, or to lose 20% or more of body weight as a bred yearling and two-year-old, may delay calving, reduce percent calf crop and weaning weights and prolong the time necessary to reach maturity. Overall, it will result in poor performance, hence, better feeding will be profitable.

(2) The moderate level, 0.5 lb. per head daily as weaner calves and a gain of 100 lb. or so to calving (less 10% body weight loss from fall to spring), may be most profitable. After maturity, 3.5 to 5 years of age, lower feed levels may be safely practiced.

(3) The high or very high level practiced in these studies (1.0 lb. per day winter gain as weaner calves and essentially no body weight loss as bred females) is not economical and actually may depress milk production, percent calf crop and life span of the beef cow.

(4) Mature cows calving in the spring may lose 20% of their fall weight without affecting calf weaning weights or percent calf crop, provided good recovery can be achieved on summer pasture.

(5) Calves from poorly wintered dams are lighter at birth and weaning and may show the effects of retarded development during this period for more than nine months past weaning.

(6) Milk production of beef cows may be reduced by either too low or too high winter feed levels even during subsequent summer on grass.

(7) Fall-calving cows have higher winter requirements than those calving in the spring. Percent calf crop and weaning weights of calves are likely to be affected severely by low feed levels.

(8) These studies indicate that, up to a point, at least, lower winter feed levels may actually result in longer life span of the brood cow. Alternate periods of weight gain or loss may actually be beneficial to health and productivity of the female—providing good recovery on summer grass is possible. They also point up the fact that the "safety zone" in the proper nutrition of the beef female may be more critical than we have supposed.

FREQUENCY OF FEEDING PROTEIN SUPPLEMENTS TO RANGE CATTLE—Three years' results indicate that beef cattle can be fed protein supplement two or three times weekly rather than daily without affecting production, reported A. A. Melton, superintendent, Trans Pecos Substation, Balmorhea, Texas, Texas Agricultural Experiment Station.

He pointed out that this can be an important factor in the economics of cattle raising, from a labor standpoint. He commented that it is also important as a saving in travel expense, especially where long distances and rough terrain are involved.

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LAWRENCE, KANSAS—The highest vitamin A reading ever recorded on a car of dehydrated alfalfa in the laboratories of the National Alfalfa Dehydrating & Milling Co. was reported recently by Ralph Farmer, chief chemist for the company at its plant here. This lot of alfalfa tested 320,000 International Units of vitamin A, more than three times the standard that the industry regards as a normal level.

The alfalfa, which ran 20% protein (not even close to a record protein), was harvested in the Garden City, Kansas, area Oct. 19.

Company Introduces New Supplement

SAN PEDRO, CAL. — A new feed supplement composed almost entirely of marine ingredients selected for their biological values and processed under patented methods was introduced here Nov. 13-16 by its developer, Philip R. Park, Inc., at the firm's national marketing seminar.

Dr. Michael J. Walsh, company president, described the supplement, called NuTron ManAmar, as "compact in size and king-sized in performance," and said use of the product "will result in substantial savings to our customers—in lower unit cost and lower freight."

Dr. Walsh said the name "NuTron" was derived from the combination of syllables in the words "nutrition" and "electronics." He is primarily responsible for developing the company's "ManAtronics" electronic feed formulation system, which was introduced earlier this year by Philip R. Park, Inc., as a customer service.

"There is a rapidly growing interest and appreciation in the U.S. of the importance of trace mineralization found in kelp combined with certain amino acids, vitamins and growth factors of marine origin," he commented.

Wayne M. Waller, director of marketing for the firm, added that the new supplement "is the result of a long-sought breakthrough in processing technique."

Philip R. Park, Inc., maintains its own sea kelp harvesting, processing, manufacturing and laboratory facilities at San Pedro.

Expands Output of Pelleted Beet Pulp

TABER, ALTA. — Canadian Sugar Factories, Ltd., has installed a second pellet mill at its factory here for the production of ¼ in. sugar beet pulp pellets.

The company initially installed a 100 h.p. California pellet mill at its Taber factory, and provided room for a second mill of equal size. At the time of the first installation, a cooler to take care of the production from two mills was also provided.

A company spokesman said the "demand for the pellets was so heavy that the second mill was installed recently." As a result, all the production at the Taber factory is now pelleted.

At the same time, the company added a pulp drying plant to the Picture Butte, Alta., plant so that all pulp is now dried there. The company estimates total beet pulp with molasses production is now 28,000 tons, compared to the previous year's production of approximately 17,000 tons.

Since pelleted beet pulp can be augered like grain or blown, many feed manufacturers are purchasing pellets in bulk and adding them to the ration of their general feeds, according to the company.

In addition to factories at Picture Butte and Taber, Alta., Canadian Sugar Factories also has a factory at Raymond, Alta.

Senator Criticizes Large Mills on Broiler Operations

GAINESVILLE, GA.—Large feed mills "are trying to monopolize the poultry industry by deliberately selling birds at less than the cost of raising them," Sen. Herman Talmadge (D., Ga.) charged in a speech here.

"We have people who presently know that they will lose 3-5¢ per bird and are canvassing farmers at length across the country because they know the net result will be bankruptcy of the small independent operators," the senator was quoted as saying by the Georgia Poultry Times.

"If they lose $50 million in the process and wind up with control of broiler production and feed sale control, they will make profits in the long run," he said.

The trouble, Sen. Talmadge said, began with the vertical integration of the industry (hatching, growing, processing and selling broilers when all functions are performed by a single company).

"Unfortunately, since the infancy of the poultry industry, we have seen vertical integration arise to where now a few of the largest feed companies in the country control the entire production of broilers from the egg to the dressed bird," the senator said.

He told his audience that the Senate Judiciary Committte and the House Small Business Committee had both been asked to investigate the poultry industry for "monopolistic tendencies."

Controls Opposed

BAKERSFIELD, CAL.—The California Farm Bureau Federation poultry division reaffirmed its opposition to government control or price support programs at its annual conference in Bakersfield. The action was aimed primarily at the pending market orders for turkey hatching eggs and turkeys.

Iowa Firm Completes Expansion Program

QUIMBY, IOWA—Simonsen Manufacturing Co., Quimby, has completed an expansion program to increase manufacturing facilities by 25%, according to Merle Simonsen, manager.

Mr. Simonsen said the "fast development of the company into a full-line manufacturer of bulk feed and fertilizer bodies necessitated a speed-up of normal anticipated expansion plans. In addition, a steady increase the past few years in the repair of bulk bodies required more room."

The over-all objective of the company, he said, is to expand along lines that will help to maintain high volume production more on a round-the-clock basis. He said there is evidence of a growing need for certain types of equipment in the area of the company's manufacturing specialty that runs contra-seasonal in nature to that of other types produced.

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Seagram feed supplements rich in proteins, minerals, fats and B-vitamins plus GFF*— vital growth factors — provide the nutritional value of dried skim milk at only a fraction of the cost. This naturally enriched feed supplement, highly palatable, is complementary to all other ingredients with a TDN of 85%. Put more feed power, *with economy*, into your dairy and calf rations with Seagram Feeds.

*GFF — Grain Fermentation Factors

JOSEPH E. SEAGRAM & SONS, INC., *Grain Products Division*

375 Park Avenue New York 22, N.Y.

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Genuine Cane BLACKSTRAP MOLASSES
NORTH AMERICAN TRADING & IMPORT CO., INC.
LARGEST IMPORTERS OF BLACKSTRAP MOLASSES IN THE UNITED STATES
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MALT SPROUTS
BREWERS GRAINS
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BEET PULP
AND 44 OTHER FEEDS

FEEDSTUFFS—*LEADER in its field*
More advertisers use FEEDSTUFFS than any other publication in the feed industry

Industry, Retailers Urged to Tell Broiler Story

CHICAGO—A "partnership" effort involving the broiler industry and food retailers and aimed at telling the broiler value story to the nation's consumers was proposed here during the second of four National Broiler Council retailer merchandising seminars.

Frank Frazier, executive vice president of NBC, suggested to representatives of approximately 25 retail organizations, "The broiler industry has a real story to tell the nation's consumers and we'd like to 'team-up' with you in telling it."

William C. Purdy, meat merchandiser for the Jewel Tea Co., Chicago, reflected the opinion of the more than 60 persons present when he declared, "Today, all of us are in a very real sense partners in distribution, or we may say, 'partners in achievement.' Anything that one segment of this business can do to help bring the consumer what she wants to buy, instead of what we might want to sell, will certainly, over a period of time, be beneficial to all."

Other seminar spokesmen discussed what the consumer thinks of chicken as a food and what retailers and the broiler industry might do to expand demand.

Harold Snyder, NBC vice president and president of Arkansas Valley Industries, Inc., said, "We know we have the most economical protein food in the world. Our challenge is to convince the millions who simply cannot believe the fantastic chicken value story."

A panel of 10 housewives from Chicago and surrounding communities were unanimous in stating they would continue to buy chicken even if prices were increased by as much as 20¢ lb. Their general opinion: "Chicken would still be a good buy at 50¢ lb.—still a greater value than other meats."

These same housewives said they do not buy frozen chicken but indicated that it is possible they could eventually learn to accept the frozen product as they have fresh chickens because all followed the usual procedure of buying fresh poultry and then placing it in the freezer at home.

"Most Versatile"

The housewife panelists consider chicken the most versatile meat and voted broiled and corn crisped chicken as their two favorite ways of preparing the meat.

Here are some other things the panelists said about chicken: They serve it at least once a week; on many occasions it is the entree when entertaining guests; backs and necks are used in soup; they like to see new recipes in food ads; the average serving per person is about half a chicken; appearance, weight and cleanliness are the quality factors considered when buying broiler-fryers, and most housewives buy a whole bird and some additional parts at the same time.

A portion of the seminar was devoted to promotion through advertising, merchandising services and new chicken products.

Dr. Robert Baker, Cornell University food scientist, displayed some of the new chicken products being developed and test marketed by the university: Chicken bologna, chicken loaf, smoked chicken, bird dogs (chicken hot dogs), golden broasters, chicken ravioli and several others.

NBC's president, Mr. Frazier, reported what the council was accomplishing through its consumer education activity and new merchandising services. He also introduced the second of NBC's advertising service kits.

Hal Donofrio of NBC's advertising agency, Cargill, Wilson & Acree, charged that excellent retail food advertising research sometimes goes unrecognized because "food store management too often concerns itself with the 'trees' of competition while neglecting the 'forest' of consumers."

He said most ads talk price and suggested that retailers take advantage of the other buying stimuli that women react to in ads, including color, taste-tempting illustrations and recipes.

...with new STAPEL Pelletizing Binder

Pelleting has ceased to be an irritating production problem in a substantial number of mills — large, small, and medium-size — which are using this new binder as a standard ingredient in selected formulas.

They are getting a denser pellet that takes the punishment of mechanical handling all the way from the mill to the animal — occupies less space in storage and shipping — meets the tough requirements of modern milling, shipping, and feeding practices. Recycling of fines is reduced, plant efficiency increased. Pelleting of complete feeds becomes a more practical operation.

Stapel is a dry powder, identified technically as Lignin Extract. Produced as a part of a large-scale, year-around process, it is available steadily in quantities on a non-seasonal basis. Data sheet gives analysis of interest to your nutritionist, other technical details.

Consolidated recommends an experimental approach to the application of Stapel in your plant. Pelleting — a highly complex operation with some 40-odd variables (counting ingredients as one), and few if any standardized methods of measurement — is an art, and results are often unpredictable. There is no basis for broad or exaggerated claims, and we make none.

The fact is, however, that surprising results have been obtained in one plant after another, leading not only to adoption of Stapel in difficult "trouble" spots, but to extended applications on other formulas of less difficulty in the same mills.

The best way to find out for yourself is a mill trial. We shall be glad to give you the benefit of our experience in considering your own problem. Write or phone for data sheet, sample, and details of our mill trial offer. The coupon is for your convenience.

STAPEL BY Consolidated

Fill out and mail the coupon — or attach it to your business card

CONSOLIDATED WATER POWER & PAPER COMPANY
Jaro Holy, Appleton, Wisconsin — Telephone RE 3-4461

Please send data and sample of Stapel Feed Pelletizing Binder, and information on your mill trial offer.

Name.....
Title.....
Company.....
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City..... State.....

Dow Petitions FDA For Additive Okay

WASHINGTON — Dow Chemical Co., Midland, Mich., has asked the U.S. Food and Drug Administration for clearance on use of the coccidiostat zoalene with a penicillin and zinc bacitracin combination.

Dow asks "the issuance of a regulation to provide for the safe use of zoalene in combination with not less than 1 gram of procaine penicillin and not less than 3 grams of zinc bacitracin, for growth promotion, provided that the total antibiotic used does not exceed 50 grams per ton of finished feed."

No matter what antibiotic you've been using it will pay to switch to new Taomyxin*™

Hogs fed rations with Taomyxin averaged 8 days less feeding time to market

at $34.20 less cost per 100 hogs

over other antibiotics tested

Just by changing the antibiotic in your swine feeds toTaomyxin, you can help your customers save money consistently . . . more reason than ever for them to switch to your program.

Taomyxin has proved it can produce more gains at less cost than any other antibiotic used alone, or any combination of antibiotics tested. Test averages show 8 days less feeding time and $34.20 less cost per 100 hogs.

Testing by Pfizer, the feed industry, colleges, and on many hog farms has shown the recommended level of Taomyxin to be 2 grams of oleandomycin to 8 grams of oxytetracycline wherever increased performance is of prime importance.

During periods of high disease risk, the product of choice is still Terramycin** alone at high levels—it's the proven superior disease-fighting antibiotic.

Call your Pfizer representative for complete details on supplementing your rations with new Taomyxin.

Taomyxin requires a supplemental N. D. A. Have you filed yours? If not, do it now.

*Oleandomycin and oxytetracycline
**Brand of oxytetracycline—Reg. U. S. Pat. Off.

The following summary shows the average of test results comparing Taomyxin with antibiotics used alone or in combination:

	Control†	Taomyxin
GROWTH		
Number of trials	12	12
Number of pigs	694	669
Av. daily gain—lbs.	1.38	1.48
Increase over controls—%	—	7.25%
FEED EFFICIENCY		
Number of trials	12	12
Number of pigs	694	669
Lb. feed/lb. gain	3.70	3.62
Improvement—%	—	2.20%
ECONOMICS††		
Cost per cwt. gain	$11.951	$11.761
Savings per cwt. gain	—	.190
Savings per pig (180 lbs. gain)	—	.342
Savings per 100 pigs	—	$34.20

†Other antibiotics and combinations of antibiotics.
††Cost of antibiotic supplements included.

Chas. Pfizer & Co., Inc.
235 E. 42nd St., New York 17, N.Y.
7600 Ambassador Row, Dallas 7
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Hong Kong, Br. Cr. Colony

Names in the News

TWO SALESMEN JOIN W. R. GRACE & CO. — Bill B. Overholser and W. O. Hazelbaker, Jr., have joined the W. R. Grace & Co. nitrogen products division as sales representatives, it was announced by R. Q. Parks, general manager, nitrogen products division. They will sell anhydrous ammonia and all forms of Grace urea.

Mr. Overholser will be assigned to Grace's Chicago district office and will be responsible for sales in North Dakota, South Dakota, Nebraska, Iowa, Minnesota, Wisconsin, Michigan, Ohio and the northern half of Illinois and Indiana. Mr. Hazelbaker will be assigned to the district office in Big Spring, Texas, and his territory will be Texas, Oklahoma, New Mexico, Arizona and Colorado.

W. O. Hazelbaker, Jr. Bill B. Overholser

For the past seven years Mr. Overholser was field representative in northwestern Indiana for the plant food division of Olin Mathieson Chemical Co. He lives in Fowler, Ind.

Mr. Hazelbaker was manager of A. R. Thorell Supply, fertilizer division, selling Monsanto products, for the past four years. Prior to that he was county agricultural agent, Little Rock, Ark.

WHITMOYER APPOINTS R. C. WILSON SALES PROMOTION MANAGER—R. C. Wilson has been appointed to the newly created post of sales promotion manager for Whitmoyer Laboratories, Inc., Myerstown, Pa.

R. C. Wilson

Mr. Wilson is a graduate of Pennsylvania State University where he majored in agricultural economics. He has had several years experience in the drug and pharmaceutical industry in both the veterinary field and in the human drug field. He will work directly with Whitmoyer salesmen in helping them on seasonal and other product promotions in their territories.

CLIFFORD E. SIMMONS NAMED TO CONTINENTAL GRAIN CO. POST—Clifford E. Simmons has become manager of the Continental Grain Co. office in Spokane, succeeding T. D. Sullivan. He had been manager of Rockford (Wash.) Grain Growers, Inc.

RICHARD LISTER JOINS KENT IN IOWA TERRITORY — Richard (Dick) Lister, Clemons, Iowa, has been appointed territory representative for Kent feeds in the Marshalltown, Iowa, area. He will work under the direction of J. D. Nash, Kent territory manager for that area.

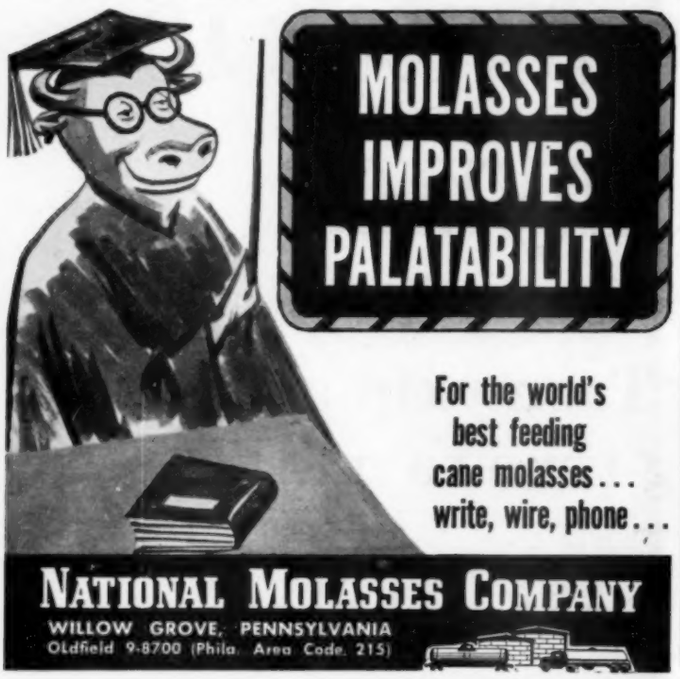
Richard Lister

Mr. Lister has had seven years of experience in the feed business with the Clemons Grain & Lumber Co., the Kent dealer at Clemons.

WILDRICK & MILLER APPOINTS HAROLD G. DICKEY — Wildrick & Miller, Inc., advertising and sales counselor, New York, has announced the appointment of Harold G. Dickey to its public relations department.

Harold G. Dickey

Mr. Dickey was formerly assistant promotion manager with the agricultural division of American Cyanamid Co. Prior to his association with Cyanamid, Mr. Dickey was advertising manager of Honeggers' & Co., feed manufacturer.



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Your Choice When You Buy

MOOERSMOBILE

★ Choice of Single Engine or Two Engine Units.
★ Choice of Direct Connected Diesel or Propane Power.
★ Choice of Swinging Feeder (1) Roller Chain Drag, (2) Twin Screw Auger, (3) Single Tubular Auger.
★ Largest 24" Open Throat Hammermill.
★ Largest Air Volume Blower and Cyclone System to eliminate plugging on the toughest type of grinding, reduce hammer and screen wear and provide dust free operation.
★ Largest Mixer—160 cu. ft.—with the addition of agitating arms—offers thorough mixing . . . gear box drive.
★ Two point molasses application system. Under the screen or in the mixer offers thorough impregnation with heated molasses. Tops in cold weather operation.
★ 8'x17' Unloading Auger with Hydraulic Lift. 10' extension available for unloading in 24' bin.
★ "Mooers" Grain Roll and Corn Shellers for high capacity auxiliary operation.
★ Bulk Concentrate Bins on Single Engine Units. Large bagged concentrate capacity on single and two engine units.

MID-STATES MILL MACHINERY CO.

3223 N. 57th Street • Phone 551-5183 • Omaha, Nebraska

YOU CHOOSE THE TRUCK AND TYPE OF FUEL—DIESEL OR PROPANE

Mooersmobile Single Engine Mobile Feed Plants

A. International VCO195 powered with 549 Propane Engine, Cotta Drive transmission, all operation controls outside of cab on feeder side of mill. Standard unit accessories similar to two engine unit.

B. Dodge C800 truck with "413" Propane engine. Balance of specifications same as A.

C. International or Dodge Trucks as above with GMC or Cummins Diesel Engines. Balance of specifications same as A.

For More Information, Write or Call

MOOERS Manufacturing Company

Windom, Minnesota Phone TEmple 1-2644

CHICKEN WEEK — Employees of Merck & Co., Inc., Rahway, N.J., received a first hand demonstration of varied luncheons which chicken can provide, even when it is served every day. The company's plant here offered a different chicken specialty on each noon menu for a week. The hundreds of employees who normally eat at the cafeteria responded favorably to the chicken week menus, the company reports. Other main meal courses were also prepared so there was a choice. Meals included chicken cacciatore, chicken a la king, roast spring chicken, chicken turnover and fried chicken. Also on the menus were chicken rice soup and chopped chicken liver sandwiches. In the photo, Margaret Cassidy, a secretary in the animal health products development section of the Merck chemical division, a manufacturer of health products for the poultry industry, beams her approval.

Turkey Competition in Annual Far West Show

TURLOCK, CAL.—Turlock will host the 17th annual Far West Turkey Show Dec. 5-7 at the 38th District Agricultural Assn. fairgrounds.

The show will feature competition in live, dressed and junior divisions with cash prizes and trophies for best turkeys exhibited. Throughout the three days there will be social activities, meetings and luncheons at which speakers will discuss topics of current interest to the turkey industry. Judging will continue throughout the three days with prizes to be awarded at a banquet the evening of Dec. 7.

Dec. 5 the California Turkey Promotion Advisory Board and the California Turkey Federation board have meetings scheduled.

Luncheon speaker Dec. 6 will be Gene Beals, manager, California Turkey Promotion Advisory Board, on "The Agriculture Act of 1961 and the Proposed National Market Order for Turkeys."

Enlarge Port Elevator

NEW ORLEANS — Continental Grain Co. has awarded a construction contract to increase the storage and handling capacity of its New Orleans elevator, Michel Fribourg, president, has announced.

The contract was awarded to the Fegles Construction Co., Minneapolis. Storage capacity will be expanded by 1,100,000 bu., bringing the total of the unit to 4,150,000 bu.

The new installation will include a new barge unloading unit capable of handling up to 20,000 bu. per hour, which will double the present barge unloading capacity of the elevator.

Mr. Fribourg said the new facilities are being constructed to provide the best up-to-date equipment which can move grain economically and with the greatest speed. Growing competition in world markets makes it imperative that grain from U.S. farms to Continental customers be handled as efficiently as possible, he said.

Export outlets in Europe, Japan, Asia and Latin America are served by the Continental elevator in the port of New Orleans.

$162,984 Suit Claims Faulty Construction

SCHUYLER, NEB.—A damage suit for $162,984.34 has been filed by Wagner Mills, Inc., Schuyler, against two Iowa companies—Bloom Builders Co., Inc., and Bloom Construction Co., both of Oskaloosa.

The petition alleges that Wagner Mills entered into a number of contracts with the defendants for the construction of feed and grain storage buildings at its place of business near Schuyler, and that the defendants warranted and represented that said buildings, so constructed by them, were of first class materials and were fit for the storage of feed and grain as required in the plaintiff's business and were properly and carefully constructed in accordance with good building practices.

It is alleged in 14 separate causes of action that 14 buildings constructed by the defendants in 1958 and 1959 have partially or totally collapsed.

The 14 buildings involved were erected to store a total of 4,555,000 bu. of grain. Wagner Mills, Inc., has total storage capacity of 7,500,000 bu.

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when you deal with Shelley
Shellbuilder is always uniformly high in quality. Always washed and sterilized, always with a bonus of trace minerals from the sea, always the same pure crushed reef oyster shell. Always your customers like to deal with someone who deals with dependable Shellbuilder. Ask a Shellbuilder customer.

SHELLBUILDER COMPANY • MARINE BUILDING • HOUSTON 2, TEXAS

Improve and enrich your poultry and livestock feed with SUPER CAL

PURE REEF OYSTER SHELL FLOUR-FREE *TRACE MINERALS* FROM THE SEA

BALER TWINE *Ask Shelley* **about imported Belgian baler twine. In every bale 9,000 ft. of long staple, golden twine with a tensile strength of 325 lb. No knots! No breakage!**

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 25¢ per word; minimum charge $3.75. Situations wanted, 20¢ a word; $3.00 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 25¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $14.00 per column inch. No discount on ads ordered for more than one insertion. All Want Ads cash with order.

HELP WANTED

NUTRITIONIST WANTED — MUST HAVE at least master's degree. Loret Mills, Chattanooga 8, Tenn.

WANTED—WORKING FARM MANAGER. Ag college graduate. Over 2,000 acres central Minnesota. Beef cattle, corn, etc. Tilney Farms, Lewisville, Minn.

SALESMAN — LEADING FEMALE LINE breeder has opening for experienced man with proven sales ability and good knowledge of poultry industry. Address Ad No. 7438, Feedstuffs, Minneapolis 40, Minn.

CENTRAL STATES FEED MANUFACTURER has opening for assistant sales manager with opportunity for growth with company. Inquiries confidential. Address Ad No. 7414, Feedstuffs, Minneapolis 40, Minn.

WANTED—AGGRESSIVE MANAGER FOR feed and grain elevator in Illinois, doing over ¾ million dollars business yearly. Experienced in buying and marketing grain, feed, plant foods. Address Ad No. 7413, Feedstuffs, Minneapolis 40, Minn.

PROGRESSIVE ORGANIZATION MANUfacturing a leading feed ingredient is seeking a sales division president. Large salary, profit sharing and liberal benefits. Should be able to create new marketing opportunities, aggressively sell a line of new ingredient products, and supervise a sales force. Must be acquainted with nutritionists and mill executives along eastern and southeastern seaboards. Selling experience to feed mills and mixers required. At least one degree in animal nutrition desired; advanced degree preferred. Send detailed resumé in confidence. Address Ad No. 7443, Feedstuffs, Minneapolis 40, Minn.

YOUNG SALES-MINDED NUTRITIONIST WANTED

By well-established, medium-sized Midwestern Feed Manufacturer. Excellent opportunity to become an important part of our executive staff. Send complete resume of training, experience, etc., with salary requirements to **Box 7442, Feedstuffs, Minneapolis 40, Minn.**

Exceptional Opportunity

for experienced feedman with strong **leadership ability** and big ambitions. This man will be responsible for the development and leadership of a strong dealer organization in a ten-county area. He will work with specialists in dealer training, business management and finance, advertising and sales promotion, and research and quality control. He will have ideas of area management and be given the opportunity to put them to work. He will think hard, work hard and be paid exceptionally well. Fine base salary, plus a "no top" limit in earnings. Reputable major upper-Midwest feed manufacturer. Write in confidence with photo and brief resume to

Ad No. 7396, Feedstuffs
Minneapolis 40, Minn.

GENERAL SALES MANAGER

Our client is looking for a man with successful experience as a sales manager for an agriculture commodity. They are medium-size midwestern feed manufacturers offering growth potential with an attractive salary and profit-sharing plan. Learn details in confidence. Send resume to:

WM. B. BEESON
Lawrence-Leiter & Co.
Management Consultants
114 W. Tenth, Kansas City, Mo.

DISTRICT MANAGER FOR NORTHEAST

A sound, expanding company with an outstanding reputation, seeks a top-flight sales representative for established territory. The man we choose will be a college man between 27 and 40, with an agricultural background and a successful sales record in the feed additive or related fields. If you want a career in sales, salary, expenses, bonus, no ceiling on earnings, security, hospitalization, life insurance, retirement plan and a challenging opportunity, send resume to:

Ad No. 7456, Feedstuffs
141 Jackson Blvd., Chicago 4, Ill.

HELP WANTED

DEMAND FOR OUR APPETIZER FOOD for cattle, as supplement, or feed ingredient, growing fast. If you are salesman, or distributor, looking for new opportunity, write to Ad No. 7445, Feedstuffs, Minneapolis 40, Minn.

WANTED WEST COAST SALES REPREsentative to cover seven western states with nationally known line of supplements sold to feed manufacturers. Base salary, plus commissions, expenses paid, and automobile furnished. Address Ad No. 7431, Feedstuffs, Minneapolis 40, Minn.

SALESMEN WANTED — EXPERIENCED salesmen to sell baler and binder twine on a commission basis. Can be sold in addition to your present lines. Prime territories in Illinois, Missouri, Kansas, Nebraska and the Dakotas open. Please give qualifications and references. Address Ad No. 7377, Feedstuffs, Minneapolis 40, Minn.

WANTED FIELD SALES REPRESENTAtive, preferably based in Pennsylvania, to cover feed manufacturers in 7-state area and subsequently to supervise junior sales representatives in this area. Extensive travel but weekends at home. Salary plus commissions, plus expenses, plus auto, plus benefits. Experienced candidates should reply to: Borden's Feed Supplements Division, 350 Madison Ave., New York 17, N. Y.

MACHINERY WANTED

WANTED—HEIL SD 8x24 DEHYDRATOR. Complete plus delivery. McIntosh Farms, Lac du Bonnet, Manitoba, Canada.

BAG CLOSING SEWING MACHINES AND equipment. Any type—condition. McCullough & Co., 8205 Paradise Lane, Kansas City 34, Mo.; SOuth 1-2857.

WANTED—PADDLE TYPE MIXER FOR premix, approximately 80 cubic feet, must be in top condition. Seed Feed Supply Co., Chattanooga 3, Tenn.

ONE USED ELECTRIC POWERED LIFT truck with capacity of 3,000 lb. Address Ad No. 7429, Feedstuffs, Minneapolis 40, Minn.

WANTED TO BUY—50 TO 100 H.P. USED California and Sprout-Waldron pellet mills. Address Ad No. 7352, Feedstuffs, Minneapolis 40, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines, other good flour, feed and grain machinery. Complete plants bought and sold. Appraisals. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

LIST YOUR SURPLUS MACHINERY WITH us to be sold on brokerage basis or for cash. We have requests for hammermills, mobile mills, pellet mills, etc. Give full description, condition, price desired. Write James Equipment Exchange, Box 463, Fort Dodge, Iowa.

SITUATIONS WANTED

FEED SALES AND MANAGEMENT — 24 years total in feed sales. Experienced in livestock feeding, dealer and territory management. Will relocate. Can furnish best of recommendations. Will consider office position. Write or call Lloyd Anderson, Neola, Iowa; Phone 2121.

K.S.U. MILLING TECHNOLOGIST, AGE 28, single, service requirements fulfilled, five years' production and engineering experience with major feed and allied industries company. Interested in combined production and managerial opportunities, specifically demanding initiative. Address Ad No. 7443, Feedstuffs, Minneapolis 40, Minn.

BUSINESS OPPORTUNITIES

FOR SALE—IN OREGON DAIRY, POULtry, beef area. Feed dealership—grinding, mixing, grain storage, truck scales, on rail spur. Address Ad No. 7455, Feedstuffs, Minneapolis 40, Minn.

FOR SALE

Modern "push button" feed mixing and pelleting mill. Continuous batch process. Air elevation, gravity drop. All explosion-proof motors and switches. Low insurance rate. California Century pellet mill with 50 H.P. motor. Room for expansion and bulk bins. Railroad siding. Located in center of large hog, cattle feeding area in western Illinois-eastern Iowa. Over $100,000 tax loss available if wanted. Financing available. Will consider sale of mill itself for removal to another site, which would be comparably easy to do.

Address ad No. 7460, Feedstuffs,
Minneapolis 40, Minnesota

MACHINERY FOR SALE

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

1956 AND 1957 DAFFIN FEED MILLS, mounted on 1959 GMC trucks. Terms available. Harry Martin, Jr., RR No. 2, Olney, Ill.

FOR SALE—ONE DAFFIN FEED MILL (1957), used little, $9,000. Financing available. Garland Bernhardt, R. 3, Tomah, Wis.

FOR SALE—EUREKA GRAIN CLEANER (No. 8). Like new. Priced to sell. Call or write: Bauer Feed & Grain, Inc., Campbellsport, Wis.; Phone: LEnox 3-4334.

WHIRLAWAY AIRBLAST CAR LOADERS, flour, feed and grain machinery. One of the oldest and largest experienced equipment houses. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

NO. 1200 REBUILT SHELLER, $305; USED Fischbein Bag Closer, $185; rebuilt 2-ton K-D Vertical Mixer, $575; Bryant Cracker and Grader, $450. Address Ad No. 7430, Feedstuffs, Minneapolis 40, Minn.

MOBILE MILLS, NEW, USED AND FACtory rebuilts. Complete with grinder, mixer, diesel, molasses. Financing available. Iowa Portable Mill Co., Oelwein, Iowa.

ONE 1½-TON BROWER ABOVE FLOOR dump mixer, with 5 H.P., 3 ph. motor. One 50 H.P. Prater Blue Streak mill with base, 50 H.P. motor and 50 H.P. reduced voltage starter. Address Ad No. 7424, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—CALIFORNIA MASTER MODel pellet mill, cooler, elevator leg, 30 H.P. steam boiler, complete pelleting equipment. Less than 3,000 tons. Can be seen in operation. H. P. Klahold Feed Co., Inc., Preston, Md.

FOR SALE—WHIZZER BAGGING CONveyors, Richardson scales, Union Special, Minneapolis, Fischbein sewing heads, one to seven ton square bins, welded spouting and elbows. Winborne Mill Equipment Service, Williamsburg, Iowa.

FOR SALE—1955 CHAMPION MILL AND mixer with molasses, mounted on 1955 cab over 2 ton Ford. Excellent working condition. Looks sharp—price $4,250. Inquire confidential service. Address Ad No. 7459, Feedstuffs, Minneapolis 40, Minn.

SEWING MACHINES—ALL TYPES CONveyors, swinging units, portables. New and used. Fischbein, Union Special, Minneapolis. Complete rebuilding and service. McCullough & Co., 8205 Paradise Lane, Kansas City 34, Mo.; SOuth 1-2857.

PACKAGED FEED MILL—DAFFIN MODel SMB with 75 H.P. motor, all complete, excellent shape. Running until new unit delivered. Also, Daffin-Western 50 H.P. pellet mill, complete with mill, leg, screen, cooler, two dies. Address Ad No. 7452, Feedstuffs, Minneapolis 40, Minn.

1957 DAFFIN FEED MOBILE WITH GMC diesel mounted on 1957 Chevrolet standard truck. Actual mileage 36,000. Diesel has 3,218. Air unloading. Very fine mechanical condition. Price $10,500. Address Ad No. 7436, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—ENCLOSED MOTORS; RICHardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

CALIFORNIA PELLET MILLS FOR SALE: One unused California pellet mill, model 200C, with a single reduction drive to provide 265 r.p.m. die speed if driven with a 125 h.p., 1,800 r.p.m. drive motor. Unit is on a base, with Falk coupling, special Epoxy coated pellet chamber, stainless steel liner on gear box, stainless steel knife posts, stainless steel California Whirley feeder, and chrome plated stationary cone. No motor. Price, f.o.b. our yard Los Angeles, Cal., $8,250. Two California pellet mills, as described above, except that they are used, and are each equipped with a 125 h.p., G.E. 1,770 r.p.m., 2,300 volt, 3-phase, 60-cycle, frame 1843 motor. Price, f.o.b. our yard, Los Angeles, Cal., $9,000 each. The above equipment was purchased new in 1960. O'Brien Machinery, Inc., 2426 E. Washington Blvd., Los Angeles 21, Cal.

LIQUIDATION
OMAHA, NEBRASKA

2—145 cu. ft. horiz. ribbon mixers.
1—Huntley Monitor grain sep. & cleaner.
1—Louisville 5'x30' steam-tube dryer.
7—Allis-Chalmers Degerminators.
2—Allis-Chalmers inter-plane grinders.
6—Horiz. grain germ reels.
1—Prater No. 20 Blue Streak hammermill.
2—Forster No. 6 hammermills, 75 h.p.
5—Davenport dewatering presses.
2—Louisville 4' 6"x25' steam-tube dryers.
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Circular Electronic Egg Factory Nears Completion in Colorado

BRIGHTON, COLO. — Eight circular, windowless buildings which will house a new electronic egg factory are nearing completion near Brighton. By next spring the facility will house 100,000 hybrid White Leghorn laying hens, expected to produce 80,000 eggs daily for the Denver area market.

A complete feed mill is also under construction at the site, it has been announced.

The factory, a joint $500,000 venture of Gates Rubber Co. and Cyclo Mfg. Co., both of Denver, utilizes a process designed and patented by Jim Helbig, vice president of Cyclo.

Each 60-ft.-in-diameter house, containing 12,500 hens, will be kept at 65° the year round. Lights will be on 14 hours and out 10 hours each day. Hens in cages will be rotated past feed and water stations at a speed allowing two minutes for eating and two minutes for drinking each hour.

A punch card system will be used to keep track of actual production of each of the 100,000 hens. As each egg is removed from a cage, a record is made of the date and hour by hen number. A by-product of the new firm will be fertilizer processed from hen droppings.

Mr. Helbig worked closely with Dr Robert E. Moreng, head of the Colorado State University poultry department, during development of the new electronic egg factory.

Charles Gates, president of Gates Rubber; Lewis Hayden, Cyclo president, and Robert G. Bonhom, Gates vice president, formed Gates Cyclo Corp., and are vice president, president and vice president, respectively.

USDA Reports Rate Of Condemnations Off

WASHINGTON — There was a 16% decline in the percentage of post-mortem condemnations of young chickens in September of this year as compared with a year earlier, according to a report just released by the U.S. Department of Agriculture.

The rate of post-mortem condemnations of young chickens fell to 1.69% from 2.02% a year before. Post-mortem condemnations of all classes of poultry fell from 1.90% in September, 1960 to 1.77% in September of this year, the figures from USDA show. Ante-mortem condemnations held steady at .21% for September, the same percentage figure as a year ago.

Total pounds of poultry condemned post-mortem were 13,021,000 while the ante-mortem figure was 1,766,000.

Post-mortem condemnation figures for other classes of poultry for September, 1960 and this year follow, with the 1961 figure listed first: mature chickens, 2.82%, 2.69%; fryer-roaster turkeys, 1.96, 1.20; young turkeys, 1.52, 1.19; old turkeys, 1.90, 1.27; ducks, 2.60, 2.28, and other poultry, 1.44, 2.42. The decrease in condemnations of young chickens from 2.02 to 1.69 was enough to offset the higher rates of condemnations on other classes resulting in the overall post-mortem condemnation decline from 1.90 to 1.77.

Airsacculitis continued to be the number one cause of post-mortem condemnations, accounting for 918,291, according to the USDA figures. Septicemia was in second place with 564,683, and leucosis accounted for 177,198.

Among the regions of the nation, the east north central region had the lowest rate of post-mortem condemnation, 1.16%. The highest rate, 1.97%, was, for the west north central region. Utah, with a condemnation rate of .54%, had the lowest figure of any state. Massachusetts was the high state with 2.68%.

Officials Interpret Country Elevators' Wage-Hour Exemption

WASHINGTON — The Grain & Feed Dealers National Assn. reports in a recent bulletin that the U.S. Department of Labor's interpretation of 1961 amendments to the Fair Labor Standards Act "lumps together all of the elevator and feed employees" for purposes of determining whether a country elevator is exempt from minimum wage and overtime provisions.

If the total of employees engaged in operating the elevator and in selling and servicing farm customers is five or less, employee exemption is applicable. If more than five, the elevator is not entitled to exemption, according to the labor department's interpretation.

Matter of Controversy

The GFDNA bulletin relates that the "no more than five employees" phrase of the amended Fair Labor Standards Act has been a matter of controversy since its passing.

The amended act, GFDNA notes, provides an exemption from the minimum wage and overtime provisions for "any employee employed within the area of production (as defined by the Secretary of Agriculture) by an establishment commonly recognized as a country elevator, including such an establishment which sells products and services used on the operation of a farm, provided that no more than five employees are employed in the establishment in such operations."

GFDNA maintains, however, that "the five-employee limitations should include only those engaged in the operation of selling products and services used in the operation of a farm and that the employees engaged in country elevator operations should be counted as in addition to the number of employees engaged in selling products and services used in the operation of the farm."

Official Interpretation

The labor department's official interpretation of the amendment pertaining to country elevator employees is as follows:

"(a) The five-employee limitation on the exemption for country elevators relates to the number of employees employed in the establishment 'in such operations.' This means that the employees to be counted include those employed in, and do not include any who are not employed in, the operations of the establishment commonly recognized as a country elevator, including the operations of such an establishment in selling products and services used in the operation of a farm. . . .

"(b) In some circumstances, an employee in an establishment commonly recognized as a country elevator may, during his workweek, be employed in work which is not part of the operations of the elevator establishment. This would be true, for example, in the case of an employee who spends his entire workweek in the construction of an overflow warehouse for the elevator. Such an employee would not be counted in that workweek because constructing a warehouse is not part of the operations of the country elevator but is an entirely distinct activity.

"(c) Employees employed by the same employer in a separate establishment in which he is engaged in a different business, and not employed in the operations of the elevator establishment, would not be counted."

CALIFORNIA EVENT—Some 350 persons registered for the California Animal Industry Conference in Fresno. Some of them are shown in these pictures.

In the first picture, Dr. F. W. Hill (right), University of California, a speaker, visits with Frank Hanold, Vitren Corp., Ontario, Cal.

The second photo shows, left to right, Dr. D. W. Peterson, University of California; John Kneeland, Pacific Vegetable Oil Co., San Francisco, and Dr. Hubert Heitman, Jr., University of California. Drs. Peterson and Heitman were speakers.

In third picture are Clyde Smith (left), Pacific Molasses Co., Long Beach, Cal., and Jim Long, Feedstuffs, Los Angeles.

Public Demand Spurs Research on Fresher, Stronger Shelled Eggs

DES MOINES—Consumer demand for fresher, stronger shelled eggs has spurred research in these areas, Dr. William Marion, poultry researcher from Iowa State University, Ames, Iowa, told those attending the Iowa Poultry Convention here.

Dr. Marion said that 8% of the eggs produced have cracks or checks. Recent studies have shown only modest improvement in shell quality when the amount of calcium in the ration is increased from 2.25 to 2.75%, he noted. Researchers at Iowa State University have found improvement in shell quality noted with the addition of vitamin C in the ration, he said.

Dr. Marion reported that refrigeration on the farm will cut the weight loss from eggs in half. Eggs that were stored for two weeks at 75° F. lost twice as much of their moisture as eggs stored at 50° F.

Spraying oil on eggs to seal the shell pores helps eggs hold high quality if done within 24 hours after the egg is laid, Dr. Marion said. This means that the job of oiling the eggs must be done by the farmer, he pointed out. Eggs sprayed after they are 24 hours old receive almost no benefit. This would include almost all the egg oiling done at the produce houses, he explained.

The best time to oil is 6 to 8 hours after the eggs are laid. Since most of the eggs are laid before 2 p.m., oiling the eggs during evening chores will cause most of the eggs to be oiled within six to eight hours.

Dr. Marion also commented that consumers and egg breakers have been requesting a more uniform deep-yellow color for the egg yolk. Yolk color is highly dependent on pigment sources in the ration, he reported. It was found in studies that as amount of alfalfa was increased up to 15% in the ration, the yellow of the yolk became darker.

Floyd Miller, Stewart Co. Associate, Dies

PITTSBURGH — Floyd H. Miller, associated with the Jesse S. Stewart Co., Pittsburgh, until his retirement in July of this year, died Nov. 16. Mr. Miller was well known in the feed, flour and grain trade through his association with the Stewart Co.

Mr. Miller was secretary-treasurer and a member of the board of directors of the company for many years. He also served as secretary and a member of the board of the Grain and Hay Exchange of Pittsburgh.

Mr. Miller is survived by his wife, daughter and two grandchildren.

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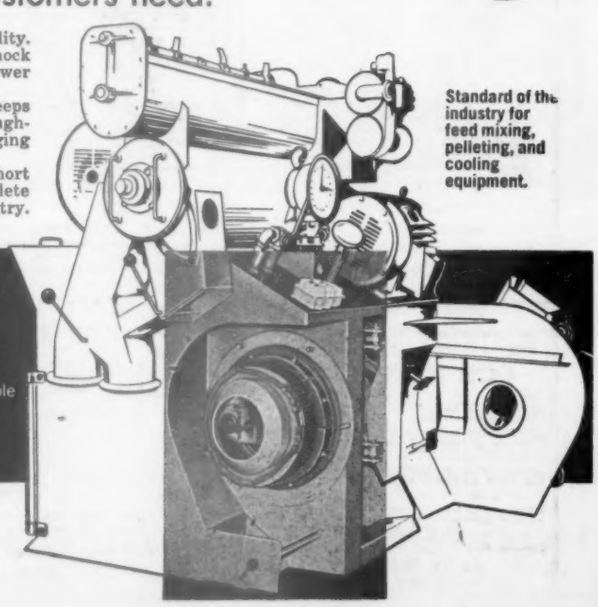

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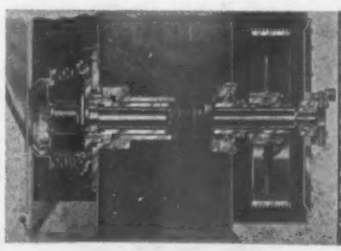

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Corn and Soy Prices Predicted

BUFFALO—The U.S. average farm price for corn during the 1961-62 feeding year probably will be about $1, and the average soybean oil meal price may be about $52, bulk, Decatur, according to Dr. L. C. Cunningham, well known agricultural economist at Cornell University.

Dr. Cunningham analyzed the feed supply and demand situation and outlook in a talk at the Cornell Nutrition Conference in Buffalo.

He referred to supply and demand data brought out in the report of the American Feed Manufacturers Assn.'s College Survey Committee (Feedstuffs, Nov. 4), and then he went on to provide a look at price prospects and other aspects of the situation.

The average corn price for the current feeding year probably won't show much change from a year earlier, averaging $1 for the 12-month period beginning in October, 1961, Dr. Cunningham indicated. He said he looked for a seasonal rise from 90 or 95¢ bu. to $1 or $1.05.

A price of $1 bu. at the farm is $1.12 at Chicago, or $40 per ton.

Dr. Cunningham noted that soybean meal prices are related to corn prices. The price of soybean meal at Decatur generally averages 130% of the corn price at Chicago. This means that soybean meal at Decatur may average about $52 ton for the year.

A meal price range of $50 to $55 will be about in line, it was indicated.

Soybean prices, it was predicted in view of the crop size, will tend to hug the support level, which is $2.30 bu.

Dr. Cunningham discussed the government feed grain program and government sales of corn under this program, and he mentioned that USDA had said that in selling certificate corn, it would aim to follow harvest-time prices of corn previously.

To the extent price is manageable, he said, corn probably will be permitted to rise from about 90 or 95¢ in November to about $1.05 next summer.

It was pointed out that much hinges on the program of disposing of corn, and it was noted that putting into the market stream an amount to cover the feed grain program pay-out would be more than the market could take at prices given.

Dr. Cunningham observed that there will be another feed grain program in 1962 and that one way to encourage participation is to have a wide spread between the market price and the support price of $1.20 bu. The government, he said, may try to keep the spread wide at least until after the farm sign-up next spring.

Milk Fever Study At Tennessee 'U'

KNOXVILLE, TENN.—Feeding dihydrotachysterol was found not to be an effective milk fever preventive in an experiment at the University of Tennessee.

Dihydrotachysterol, a compound used in human medicine, had been found to produce similar results to Vitamin D in prevention of milk fever among cows. When a cow has milk fever, there is a rapid removal of calcium from the blood of the animal after calving.

In the investigation, to check its oral effectiveness, dihydrotachysterol was fed at the rate of 20 milligrams mixed with 3-4 lb. of herd grain ration every other day beginning at seven days before the expected date of calving.

Eighty-seven mature Jersey cows were used and it was found blood calcium changes at parturition did not seem to be affected by the dihydrotachysterol feeding under the conditions of the investigation.

Apparently, dihydrotachysterol at the 20 milligram dose level does not exert the same calcemic—or blood-raising—effect in preparturient cows as has been reported with the use of massive doses of Vitamin D, it was concluded.

Conducting the study were Dr. E. W. Swanson, R. O. Thomas and J. R. Owen of the university.

N.H. Group to Vote On Resolutions

MANCHESTER, N.H.—Resolutions of current interest in the poultry industry will come under consideration at the winter meeting of the New Hampshire Poultry Growers Assn. in Manchester Dec. 7.

Among resolutions is one which would put the association on record either in favor of or against industry marketing orders. Another proposed resolution, among several put forth for consideration by members prior to the meeting, states that the association "looks with disfavor on the actions of one of the national feed manufacturers which has recently purchased large broiler raising and processing interests."

"Opportunities in the New Hampshire Poultry Industry" will be the subject of a morning panel discussion.

In the afternoon, Dr. Frank A. Todd, U.S. Department of Agriculture, will discuss "Protecting Our Poultry from Radiation," and William Aho, extension poultryman, University of Connecticut, Storrs, will speak on "How Far Should We Go With Automation?"

Japan Group Signs Research Agreement

TOKYO—Signing of an agreement by the U.S. Feed Grain Council with the Japan Feedstuff Assn. for research work is announced in a recent issue of Mitsui's Grain Report, published by Mitsui & Co., Ltd., here.

Clarence D. Palmby, executive vice president of the U.S. Feed Grains Council, Oct. 2 signed the agreement with K. Hasuike, managing director of the association, according to the report.

Work to be undertaken by the Japan Feedstuff Assn. under the agreement is as follows:

(1) To study whether and how the color of egg yolks can be controlled through feed maangement, and also to investigate the reaction of consumers (including industrial users) to the variation in color of egg yolks.

(2) To carry out research regarding how U.S. milo is actually being utilized as a feedstuff and the users' evaluation thereof from the standpoint of cost management.

(3) To study the consumption of eggs, meat and milk and the consumers' knowledge with respect to these items.

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HOOKER CHEMICALS PLASTICS

HEARING

(Continued from page 1)

orders, proposed for the turkey industry, be extended to feed grains also.

He said the cost of such a "self-help" program for grain producers should be borne by them, just as the turkey industry would bear the cost of its program.

Mr. Moore, supporting the principle in general, suggested that the USDA "give serious consideration to converting the present feed grain programs to self-help programs supported by the grain producers, just as the proposed marketing orders for the turkey industry are to be operated."

"I feel compelled to make this statement," he said, "since the poultry industry is the largest user of feed grains, which, incidentally, represent something like 70% of the total out-of-pocket cost of producing a pound of broiler or turkey meat."

Feed grains are under government price supports. "The poultry industry, without any support program," Mr. Moore said, "has, over the years, been buying feed grains in a subsidized market.

"If it is right, and I think it is, for poultrymen to pay the cost of the proposed marketing orders (which incidentally do not include support prices), it appears reasonable that the producers of the major ingredient in the cost of poultry production should be asked to do likewise."

Speakers Disagree

W. D. Wampler of Harrisonburg, Va.—whose father, Charles W. Wampler, Sr., is credited with starting the turkey industry—was a witness on the opening day of the hearing and said, "If this (price) situation continues in 1962, it's very likely there'll be no commercial turkey industry in the state of Virginia."

He strongly endorsed the proposed orders, as did the leadoff witness, Chester C. Housh of Elkton, Va., chairman of the National Turkey Federation's legislative committee.

Mr. Wampler said the number of feed dealers in his area has dropped "something wonderful — or terrible," and there has certainly been centralization of the turkey industry. If production gets into too few hands, he said, it's possible "they could control price and production, which would make for an exorbitant price to the consumer."

James W. Moyers of Broadway, Va., representing the Beacon Milling Co., said his firm objected to the orders on three grounds. Even though the setup would be administered by the turkey industry, it would be "laying the groundwork for complete government control of the whole poultry industry," he said.

He added the plan would be hard to administer "equitably and uniformly" and "the rights of the small producer might be inadvertently neglected." The industry should be able to solve its own problems without absorbing the additional cost of a government-regulated program, he said.

Under cross examination, Mr. Moyers said he would not advocate a plan to effect stabilization of the turkey industry but would report that his company, which has growers produce turkeys for it on contract, plans to cut production 20% next year.

Francis A. Kelly of Warsaw, N.Y., counsel for the National Farmers Union, which favors the marketing orders, presented the witnesses for the proponents. He said the plan simply lets farmers do for themselves what other enabling laws now permit industry, labor and the professions to do.

A bloc of North Carolina growers stood almost solid in opposition to the orders in any form, and Virginia turkeymen at the hearing appeared divided on the issue.

David Van Meter of Petersburg, W. Va., reported that state's poultry and feed association's executive groups had endorsed the proposed orders.

Several witnesses at the public hearing asserted that all the talk about these marketing orders has contributed to the turkey glut. They said reports are rife that some turkey interests deliberately are increasing their stocks to enlarge the base on which any cutback under the regulatory orders would be applied.

One of these witnesses, J. E. Givens, assistant general manager of Southern States Cooperative, Richmond, said turkey growers—whether they own their birds or raise them under contract for others — should have 51% of the voting weight in a referendum on the marketing orders. He endorsed the orders in principle, but said that they must be more specific in their language as to base periods and penalties for non-compliance, if they are to be effective.

Revisions Needed

As the second day of the hearings progressed, it became quite evident that the turkey proposals would have to undergo some revisions to get the vote of many of those present.

Henry L. Holler, Edinburg, Va., testifying as president of the Virginia Poultry Processors Assn., stated, "We have grave doubts about the practicability of a marketing order on market turkeys at the processing level; its failure to deal with certain problems involved, especially as they apply to Virginia processors."

He pointed out that one of the most serious problems posed by the order for Virginia processors was the requirement that handlers hold set aside turkeys in storage "in such facilities and under such storage conditions as the committee may prescribe . . . "

Unlike some other areas, Virginia, because of its nearness to markets and year-around marketing program, does not have adequate storage facilities for even its normal requirements, Mr. Holler said.

The final day of the hearing dealt with terms and provisions of the orders. G. Osmond Hyde, USDA senior hearing examiner, presided at the hearings.

USDA staff men at the hearings were Richard C. Larkin, Agricultural Marketing Service; J. C. Krause, director of marketing division, Office of General Counsel, USDA, and John C. Cherouskus, an attorney in that same division.

Hearing Procedure

The hearings followed the order of first establishing the need for a marketing order or orders. USDA witnesses were heard first to present statistical data. Other witnesses were heard in the following order: (1) Proponents, (2) those in support of proponents, (3) those who wanted to modify position of proponents and (4) opponents. The hearings then moved to cover the orders on a subject-by-subject basis of the provisions.

To present testimony for or against the proposed orders or supporting testimony, as individuals or as the representatives of an organization, a person must appear at the hearings and testify under oath and be available for cross examination.

The Richmond hearing was the first in a series conducted by USDA on the proposed marketing agreements and orders for turkey hatching eggs and market turkeys. A second hearing was being held late this week in Des Moines.

That there was a wide variance of opinion at the Richmond hearing was evident from the time the hearing opened. Some said that language in the first drafts of the orders was vague and ambiguous. Some said the orders should not be approved until thoroughly examined and revised. And, as noted above, there were some who expressed doubt that orders should be used at all.

Mr. Moore, who noted that the Virginia Turkey Federation is in favor of orders in principle, said that the detailed plan had not been in existence long enough for the industry to study it thoroughly. He said all loopholes should be removed before a referendum is held.

In general, persons voicing opinions at the hearing were split down the middle on the desirability of marketing orders. In addition to those in favor, quite a number from Virginia were opposed. The North Carolina group, which included a number of feed manufacturers as well as growers, was mostly opposed.

Role of Hatcheries

There was a good deal of questioning and discussion regarding the role of hatcheries under the hatching egg order. Some felt that hatcheries would have considerable control over how poults would be sold, and some said that hatcheries might use hatching eggs and poults for their own production.

The orders do not spell out on the basis of size who producers of hatching eggs and market turkeys are. The thinking has been that 50 breeder hens and 400 market turkeys would be the minimums, but this is not stated in the order. It was indicated that some had not realized this information was left out. The discussion was in terms of these figures. However, one suggestion was that any producer should be able to vote. This would considerably enlarge the possible vote.

In discussion of points in the orders, considerable time was spent on the hatching egg order. Some questioned whether volume regulation Method No. 2 would be legal. Under this method, quotas for hatching eggs received by hatcheries would be "referrable" to producers of hatching eggs. The hearing examiner said that the secretary must have given thought to this question before the order was issued.

Questions came on assessments on handlers of hatching eggs. The order now lists 25¢ per 100 eggs as a maximum, but it is not clear whether the secretary actually could make the assessment higher than this. It was suggested that the maximum should be listed as 50¢ and that this be the actual maximum; 25¢, it was indicated, might not be adequate. Another suggestion was that it be specified that assessments could not be retroactive on hatching eggs or turkeys already handled.

Discussion of the unfair trade practices section brought the recommendation that the orders actually spell out what unfair trade practices would be. E. C. Compton, who was chairman of the national turkey industry advisory committee, said the secretary should detail unfair practices.

Another suggestion was that there should be definite termination dates and that a referendum should be held periodically, every two or three years.

Still another question was on the selection of the chairman of the managing committee. The order now indicates that the committee would select all officers except the chairman. Some felt that the committee also should select the chairman.

Many other questions also were raised, and various suggestions were made on details of the proposed orders, indicating that a good many changes and more specifics might be needed before many would vote in favor of the orders.

TOP OF THE HOPPER

(Continued from page 2)

might be considered small if it heads off the possibility of a "dud," saleswise, or produces suggestions for more effective marketing.

A similar approach might be used by feed manufacturers, too, before bringing out a new formula or a new feeder program.

STRONG DEMAND for feeder cattle and generally favorable grazing conditions are pinpointed by a Purdue University extension agricultural economist, M. Paul Mitchell, as strongly supporting the current slaughter cattle price structure.

He says an abundance of grass has cut back marketings of non-fed or grass type cattle. And the abundance of calls for feeder cattle has turned "two-way" cattle toward feedlots instead of toward slaughter.

This has reduced the total supply of beef available for current consumption but, in general, has not helped future market conditions, the economist observes.

SOME NUTRITIONISTS have been focusing more attention on the use of higher levels of vitamin A in dairy rations. Some feed companies are said to have been using higher levels with good success, and other nutritionists recently have expressed interest in the possibilities. One nutritionist observed that with the good results from higher A levels in beef cattle feeds, it is logical to expect that there might be a favorable response in dairy feeds also.

FEED AND ALLIED INDUSTRY PROBLEMS resulting from the food additive legislation, the Delaney clause and Food and Drug Administration interpretations and regulations have been continuing for a good while now. Although some of the problems have been eased, some of the major problems persist. One observer mentioned recently that certain efforts can help but that some of the basic problems probably cannot be cleared up without court tests or political action through legislation.

While it has been contended that any feed is subject to FDA controls if any of the ingredients move in interstate commerce (even though the feed does not), there are at least some questions as to whether this interpretation would in all cases hold up. Meanwhile, some reports indicate that long term testing aimed at clearing up the problem for organic arsenicals is continuing and that there may be some helpful findings before too long.

THE VARIATION IN PROTEIN content of milo has brought considerable trouble for feed manufacturers in some areas, including the West and the Southwest. Some of the milo has had lower protein content than generally assumed, as pointed out previously by some college and industry specialists. One authority said that the problem does not seem to be related to area where the milo is grown but rather may be related to variety. A state control official said he was advising feed men to assume a somewhat lower average protein content for milo than formerly used.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Los Angeles: Demand fair; trend steady; supply ample; dehydrated meal, 17% protein, 100,000 A $50@51; dehydrated pellet meal, 17% protein, 100,000 A $52@54; suncured meal, 15% protein $41@42; suncured crumbles, 15% protein $43@44; all unchanged.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $54.50, up 50¢; reground pellets $53.60, unchanged.

St. Louis: Demand fair; trend steady, supply ample; dehydrated, 17% protein, 100,000 units vitamin A pellets $48.50, unchanged.

Boston: Demand good; trend firmer; supply adequate; dehydrated, 17% $59, sacked, up $1, unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $51@55, unchanged.

Ft. Worth: Demand fair for dehydrated, slow for suncured; supply sufficient; sacked: dehydrated, 17%, 100,000 A $55.50 @56, rail or truck, November, unchanged; suncured, 13%, ¼-in. grind, No. 1 $42, truck, unchanged.

Minneapolis: Demand good; supplies adequate; prices remain unchanged; 17% dehydrated, 100,000 units vitamin A reground pellets $51; oiled reground $52.

Chicago: Demand fair; trend steady; supply moderate; dehydrated, 17% protein, 100,000 units vitamin A $51.10@52.10.

Denver: Demand fair; trend steady; supply ample; $46, unchanged.

Portland: Demand fairly active; trend unchanged and about steady; supply adequate; 15% suncured $38, sacked; 20% dehydrated pellet meal $55.50, sacked.

Buffalo: Demand and supply fair; trend steady; $59.60, sacked, Boston, unchanged.

Kansas City: Demand fair; trend steady; supply adequate; 17% dehydrated alfalfa, 100,000 A, pellets $46@48, reground pellets $47@49; 18% dehydrated alfalfa, 125,000 A, pellets $47@51; reground pellets $48@52; 20% dehydrated alfalfa, 150,000 A, pellets $52@58, reground pellets $54@59, all unchanged.

Seattle: Demand fair; trend firm; supply ample; suncured, 15% protein $40, Seattle; dehydrated, 150,000 A units $67, Seattle; both unchanged.

ANIMAL FAT (STABILIZED)

St. Louis: Demand slow; trend steady; supply ample; yellow grease 4¾¢ lb., delivered, tank trucks or cars, unchanged.

Los Angeles: Demand and trend steady; supply ample; 5¼¢ lb., unchanged.

Memphis: Demand slow; trend barely steady; supply adequate; yellow grease 4¾¢ lb., prime tallow 5¼¢ lb., both unchanged.

Boston: Demand and supply steady; trend steady; tallow 5⅝@5¾¢ lb., yellow grease 5@5¼¢ lb., both unchanged.

Ft. Worth: Demand improved; supply sufficient; trend steady; prime tallow, tank cars 5¢ lb., drums 4⅝@7¢ lb., f.o.b. north Texas packing plants with returnable drums, unchanged.

St. Paul: Demand good; supplies ample; trend continues firm; bleachable fancy tallow 5¼¢ lb., f.o.b. producer's plant.

Atlanta: Demand good; trend steady; supply limited; 5¢ lb., f.o.b. Alabama and Georgia production points, unchanged.

Chicago: Demand improved; trend firm; supply fair; bleachable fancy tallow $5.50 cwt., yellow grease $5 cwt., tank truck or carlot.

BARLEY FEED

Los Angeles: Demand slow; trend slightly easier; supply adequate; $2.62½ cwt., unchanged.

Boston: Demand and supply fair; trend steady; $44.50, unchanged.

Baltimore: Demand fair; trend firm; supply ample; $43.50, sacked.

Chicago: Demand and supply fair; trend steady; $33, sacked.

BLOOD MEAL

Los Angeles: Demand slow; trend steady; supply ample; $5@5.25 a unit of ammonia, sacked, unchanged.

Chicago: Demand good; trend up $2.50, supply fair; 80% protein $135, sacked.

BONE MEAL (STEAMED)

Los Angeles: Demand fair; trend steady; supply adequate; imported $78, 20 ton lots, sacked.

Boston: Demand and supply steady; trend steady; $105, unchanged.

Cincinnati: Demand fair; trend steady; supply good; $105, sacked, Cincinnati, up $5.

Chicago: Demand fair; trend steady; supply adequate; $97.50, sacked.

BREWERS DRIED GRAINS

Los Angeles: Demand and trend steady; supply light; $51, unchanged.

St. Louis: Demand good; trend firmer; supply tight; 26% protein $44, up $2.

Boston: Demand good; trend firm; supply fair; $50, up $1.

Cincinnati: Demand poor; trend steady; supply adequate; $49, unchanged.

Chicago: Demand good; trend $1@2 up; supply light; 26% protein $41.

BREWERS DRIED YEAST

Los Angeles: Demand good; trend steady; supply adequate; 10¢ lb., 5 ton lots, sacked; 11¢ lb., 1 ton lots, sacked; 12¢ lb., less than ton lots, sacked; all unchanged.

Boston: Demand and supply in balance; trend steady; 11¢ lb., unchanged.

Cincinnati: 9@10¢ lb., sacked, unchanged.

Buffalo: Demand only fair; trend higher; supply fair; $9.35 cwt., f.o.b. Buffalo, up 10¢.

St. Louis: Demand fair; trend firm; supply ample; 9⅝@10¢ lb., carlots, sacked; 10⅛¢ lb., ton lots; 11⅛¢ lb., less than ton lots.

Chicago: Demand fair; trend steady; supply ample; 9⅝@10¢ lb., carlots, sacked; 9⅝@12⅛¢ lb., L.c.l.

CALCIUM CARBONATE

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars, sacked; meal $10.20, 20 ton cars, sacked; both unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt., unchanged.

Denver: Demand fair; trend steady; supply ample; $12.50, carload, unchanged.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.05; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

COCONUT OIL MEAL

Los Angeles: Demand and trend steady; moderate offerings; copra cake $63@64, unchanged.

CONDENSED FISH SOLUBLES

Los Angeles: Demand and trend steady; supply limited; 3½¢ lb., unchanged.

Boston: Demand active; trend firm; supply tight; $55, nominal, tank cars, unchanged.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $45.70, meal $72.70.
Atlanta: Feed $49.10, meal $76.10.
Birmingham: Feed $46.90, meal $73.90.
Boston: Feed $50.60, meal $77.60.
Chicago: Feed $39, meal $66.
Cleveland: Feed $47, meal $74.
Denver: Feed $49.30, meal $76.30.
Ft. Worth: Feed $49.80, meal $74.80.
Indianapolis: Feed $44.25, meal $71.25.
Kansas City: Feed $39, meal $66.
Louisville: Feed $45.55, meal $72.55.
New York: Feed $50.20, meal $77.20.
Norfolk: Feed $49.60, meal $76.60.
Philadelphia: Feed $49.80, meal $76.80.
St. Louis: Feed $39, meal $76.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $44, up $2.

COTTONSEED OIL MEAL

Los Angeles: Demand very good; trend very firm; supply adequate; $61, up $6.

St. Louis: Demand slow; trend easier; supply ample; 41% solvent process $59, Memphis basis, unchanged.

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process $59.50, up 50¢; new process, 41% protein $59.50, up 50¢.

Cincinnati: Demand fair; trend steady; supply adequate; $67, unchanged.

Atlanta: Demand good; trend steady; supply limited; 41% $65, North Carolina, South Carolina and Georgia, unchanged; $66, north Alabama, up $1; $59, Mississippi and Tennessee, up $1.

Ft. Worth: Demand good; trend firm, especially on old process; light offerings on old process, sufficient on solvent; 41% old process $62@63, f.o.b. mills Ft. Worth, up $1; solvent with 2% fat added $64.10, dry $63.10, December, down 50¢; loose hulls $13@15, down $1@2.

Seattle: Demand good; trend firm; supply ample; 41% expeller $71, f.o.b. car Seattle, unchanged.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50, sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, minimum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Port Arthur, Texas: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload and truck load $65.75, sacked, 100 lb. multiwall bags; bulk $62.75, f.o.b. Port Arthur.

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50, Cincinnati, unchanged.

Ft. Worth: Demand good; trend steady; supply adequate; minimum 18% phosphorus, maximum 34% calcium, maximum .18% fluorine $73.45, sacked, unchanged.

DICALCIUM PHOSPHATE

Chicago: Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $91 and 21% $93; lesser quantities, 18½% phosphate $91 and 21% $103; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $51 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 30%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked, in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Trenton, Mich.: 18½% phosphorus and 23% calcium, bulk boxcar-hopper car $78; bagged $81; 21% phosphorus product production discontinued.

Cincinnati: 18½% phosphorus $88.80, bagged in carloads; $95.70, bagged in ton lots, f.o.b. Cincinnati; $81, f.o.b. production points, unchanged.

Denver: Demand good; trend steady; supply ample; $75.50, f.o.b. Texas City, plus freight.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

Los Angeles: Demand good; trend steady; supply adequate; 18½% phosphorus $75.10, sacked, unchanged.

DISTILLERS DRIED GRAINS

Boston: Demand active; trend very firm; supply allocated; $56, up $4@5.

Cincinnati: Demand fair; trend steady to higher; supply adequate; $48.50@51.50, up $5.50.

Buffalo: Demand good; trend higher; supply fair; $56, Boston, up $3.

DRIED BEET PULP

Los Angeles: Demand and trend steady; supply adequate; $48.50@49.70 at milk shed, unchanged.

Boston: Demand and supply in balance; trend steady; $53, sacked, unchanged.

DRIED BUTTERMILK

Los Angeles: Demand and trend steady; supply limited; 14@14¼¢ lb., sacked, unchanged.

Boston: Demand and supply steady; trend steady; 14¢ lb., unchanged.

Chicago: Demand slow; trend steady; supply ample; medium acid $10.25@10.50 cwt., sweet cream $10.25@10.50 cwt., both sacked.

DRIED CITRUS PULP

Los Angeles: Demand and trend steady; supply limited; orange pulp $43, lemon pulp $40@42, both unchanged.

Boston: Demand and supply steady; trend steady; $50.17, sacked, unchanged.

Atlanta: Demand good; trend steady; supply good; pulp $32.50, sacked; meal $27.50@30, sacked, both f.o.b. Florida processing plants, unchanged.

DRIED SKIM MILK

Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots, sacked; 13¾¢ lb., ton lots, sacked; both unchanged.

Boston: Demand and supply steady; trend steady; 13½¢ lb., unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked, unchanged.

Minneapolis: Demand good; supplies tight; price steady at $13.50 cwt.

Chicago: Demand good; trend 50¢@$1 up; supply light; $13.50 cwt., sacked.

DRIED WHEY

Los Angeles: Demand fair; trend steady; supply adequate; $5.10 cwt., carloads; $5.25 cwt., l.c.l., both sacked and unchanged.

Boston: Demand and supply steady; trend steady; $4.85 cwt., unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked, unchanged.

Minneapolis: Demand good; supplies adequate, price steady at $4.75 cwt., f.o.b. shipping point.

Chicago: Demand quiet; trend firm; supply fair; $4.75 cwt., sacked.

FEATHER MEAL (HYDROLYZED)

Los Angeles: Demand slow; trend barely steady; supply ample; $1 a unit of protein, sacked, unchanged.

Memphis: Demand fair; trend steady; supply light; 85% meal $83, nominal, unchanged.

Boston: Demand fair; trend steady; supply light; $95, unchanged.

FISH MEAL

Los Angeles: Demand fair to good; trend firmer; limited offerings; local production, 60% protein $1.80@1.82½ a unit, unchanged to 2½¢ higher.

Boston: Demand good; trend firm; supply adequate; Peruvian, early December delivery, 65% $118 carlots, $120 truck loads, both unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $113.11, unchanged.

Atlanta: Demand good; trend steady; supply limited; 65% Peruvian $112@116, sacked, Atlantic and Gulf ports, unchanged; 60% menhaden $118@120, sacked, Atlantic ports, subject to catch, unchanged.

Denver: Demand fair; trend steady; supply short; $1.95 a protein unit, f.o.b. West Coast, unchanged.

Minneapolis: Demand fair; supplies still tight; strike over; Canadian herring steady at $1.85 for immediate, $1.75 for last half of December or January, f.o.b. West Coast; 60% West Coast blended steady at $138.

Portland: Demand moderately active; supply ample; trend weaker; $1.95 a protein unit, sacked.

Buffalo: Demand light; trend firm; supply unavailable; 60% protein menhaden $133, Buffalo, unchanged.

Ft. Worth: Demand good; offerings light for immediate; sacked: 65% protein Peruvian $118@119, unchanged; 60% new crop menhaden $126, unchanged.

Chicago: Demand good; supplies hard to get; menhaden, East Coast $117@118, Gulf $117@118; scrap, East Coast $113@114, Gulf $113@114; Canadian herring $1.85@1.95 a unit of protein.

Seattle: Demand and supply fair; trend steady; Canadian production $1.90 a unit protein, f.o.b. truck, Vancouver, sacked, unchanged.

HOMINY FEED

St. Louis: Demand good; trend steady; supply light; yellow $41.50, unchanged.

Los Angeles: Demand good; trend firm; supply limited; hominy meal $52, hominy pellets $54, both unchanged.

Memphis: Demand fair; trend steady; supply ample; white $45, up $1; yellow $45, up $1.

Boston: Demand active; trend firm; supply tight; $55, nominal, up $1.

Cincinnati: Demand poor; trend steady; supply adequate; $47, unchanged.

Chicago: Demand strong; trend $2 up; supply light; $46, nominal.

LINSEED OIL MEAL

Los Angeles: Demand slow; trend steady; supply moderate but ample; local production, 31% protein $71, unchanged.

Boston: Demand and supply light; trend steady; $74.20, unchanged.

Cincinnati: Demand poor; trend higher; supply adequate; new process $58, old process $62.50, Minneapolis, up $1.

Minneapolis: Demand fair; supplies continue scarce; 34% solvent steady at $57.50.

Portland: Demand fair; trend steady; supply ample; 34% solvent $62.60, sacked.

Buffalo: Demand and supply fair; trend steady to higher; $58, Minneapolis, up 50¢.

Ft. Worth: Demand slow; trend steady; supply sufficient; 34% protein, extracted $72.40, November through December, unchanged.

Seattle: Demand fair; trend steady; supply ample; 31% protein (California) $90, delivered car loads, sacked, unchanged.

Denver: Demand fair; trend steady; supply ample; $71, unchanged.

Chicago: Demand and supply fair; trend steady; solvent $57.50, expeller $62.50, both Minneapolis basis.

MEAT AND BONE MEAL

Cincinnati: Demand and supply good; trend steady; 50% meat and bone scraps $76, Cincinnati, down $1.50.

Memphis: Demand fair; trend barely steady; supply adequate; 50% protein $76, without billing, down $1; 50% protein $77, with rail transit, down $2.50.

St. Louis: Demand fair; trend firm; supply ample; 50% $77, down $1.

Los Angeles: Demand steady; trend fairly steady; supply ample; 50% protein $1.75 a unit, unchanged.

Boston: Demand and supply steady; trend steady; $1.20 a protein unit, converted 50% $82, both unchanged.

Chicago: Demand fair; trend firm; supply ample; 50% protein $85, sacked.

Portland: Demand narrow; trend easier; supply barely adequate; 50% protein $80, sacked.

Kansas City: Demand fair; trend steady to lower; supply ample; 50% scraps $75@77.50, unchanged.

Buffalo: Demand fair; trend lower; supply easier; 50% meat scraps $77.50, f.o.b. Buffalo, off $2.50.

Denver: Demand fair; trend steady; supply ample; $70, down $2.

Ft. Worth: Demand improved; supply sufficient; meat and bone $72.50@75 bulk, $75.50@77.50 sacked, f.o.b. Ft. Worth, about unchanged.

Seattle: Demand good; trend steady; supply ample; $1.70 a unit protein, ox-processing plant, sacked, unchanged.

St. Paul: Demand slow; supplies ample; price unchanged at $84@88.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock; 13% phosphorus $39 sacked, bulk $2 less.

MILLFEED

St. Louis: Demand fair; trend easy; supply adequate; sacked bran $46, down $2; sacked shorts $45, down $4; bulk bran $41, down $1.50; bulk middlings $42, down $2.50.

Los Angeles: Standard milrun $45.50, fair demand, steady trend, ample supplies, unchanged to 50¢ higher; red bran $54@55, slow demand, weaker trend, ample supplies, down $1.

Memphis: Demand fair; trend lower; supply ample; wheat bran $44, down $1.50; gray shorts $45.50, down $2; standard midds. $45, down 50¢.

Cincinnati: Demand fair; trend steady;

(Turn to QUOTES, page 91)

Major Markets Roundup

Soybean Meal Leads Ingredients Lower

Soybean oil meal led the ingredients into a small decline around the nation this week. The figures released by the U.S. Department of Agriculture show the index for all feedstuffs to be 1.2 points lower during the week ended Nov. 21 than the previous week.

USDA's price index shows soybean meal was down $2.95 (see table). On the higher side for the week were distillers' dried grains, up $3, and brewers dried grains, up $2. The figures also showed middlings to be off $1.

There was a late week $2 advance in the price of corn gluten feed.

In the animal proteins, meat and bone meal was weak, and tankage was also slightly lower.

East

BOSTON: The over-all demand was fairly active in the local market as many buyers became impressed with difficult harvesting conditions due to weather elements. The supply situation was somewhat tighter particularly in alfalfa meal, brewers grains, distillers and a few other related cattle feeds.

Bran and middlings were exceptions as buyers were not so aggressive and, as a result, they eased somewhat in value. Oat feed experienced a sharp advance, and distillers grains were in a tight enough supply situation to be placed on an allocation basis.

BUFFALO: The ingredient market was slow and mixed, with some hitherto strong items backtracking sharply as some of the middle-proteins gathered strength. The previous week's gains in millfeeds were more than wiped out as bran and middlings lost $3.50 and red dog dropped $5.

The downturn was blamed on the availability of more corn and day-today declines in high-protein items. Soybean oil meal, in increased supply, gave up more ground, with an additional $3 drop.

Midwest

CINCINNATI: Supplies were adequate to meet the slow demand for feed ingredients this week.

Distillers dried grains advanced $5.50. Bone meal was up $5, and corn oil meal rose $2. Also advancing were linseed, by $1, and millfeeds, by 50¢

On the lower side were: Soybean oil meal, $3; meat and bone scraps, $1.50, and tankage, $1.

CHICAGO: After having shown a firming tendency earlier in the month, bean meal sold off again for the second successive week with 44% and 50% protein content sharing about equally in the decline. Insofar as billing was concerned, the eastern trunk line was showing relatively a little more easiness than the unrestricted. Decatur basis 44% unrestricted was $57 per ton and ETL $54; on the 50% protein, unrestricted brought $62 and ETL $59. Net declines for the week were from $2 to $2.50 per ton.

The Census Bureau's report on the October crush of soybeans shows that it totaled 36,223,000 bu. compared with 22,953,000 bu. in September and 35,563,000 bu. in the previous October.

Meal production was 832,400 tons vs. 529,700 tons for September and 819,200 for October, 1960. In the face of much stepped-up meal production, processor stocks at the end of October had been whittled down about 9,000 tons to 62,100 vs. 71,900 at the end of September, the report showed. It stood at about two-thirds the stock on hand Oct. 31, 1960.

MINNEAPOLIS - ST. PAUL: This was a quiet week in ingredient trading in the Twin Cities. Only two ingredient quotations are changed from those of a week earlier. They are the quotations on soybean meal and millfeeds.

Soybean meal ranged from 50¢ to $1.50 lower in the Minneapolis-St. Paul market.

Millfeeds continued to be in good demand. Sacked bran was steady to 50¢ higher, $42 to $42.50. Sacked middlings were off 50¢ to $1, $42 to $42.50. Sacked red dog held steady at $44.

ST. LOUIS: Feedstuffs prices were mostly steady to easy in sluggish trading. Easiness stemmed in part from downturns in soybean meal and millfeeds. Buyers were made cautious by a buildup in their inventories and a holiday shortened work week.

Soybean meal was $4 lower under pressure of heavier offerings and slower demand. The cash structure in meal broke down the past week with prices dropping to $3.50 to $4 over the Chicago December soybean future.

Millfeed supplies appeared to be heavier than the trade had expected and this had a weakening influence. Prices eased $1.50 to $2.50 a ton.

Although hominy feed prices held unchanged, demand was strong and supplies scarce. New crop corn offerings usually ran high in moisture, forcing mixers to stretch out supplies with hominy whenever possible.

Oat mill feed prices jumped up in a hurry, gaining $3.50 in the week. Supplies were hard to find.

South

ATLANTA: Most of the cottonseed crushing mills report their tonnages of meal for November and the first half of December have been sold, and the mills are asking higher prices for what unsold meal they have for this position.

With more soybean mill operators anticipating the crushing of soybeans during December, it has brought out more offerings of meal at slightly reduced prices, but many do not look for much of a price change until the mills have to go to storage in their warehouses.

Elevators in the extreme Southeast are asking 5 to 10¢ per bushel more for their corn, due to the scarcity in the vicinity.

MEMPHIS: Ingredients formed a thoroughly mixed picture, with demand ranging from poor to fair.

Business continued rather slow in animal and poultry proteins in this territory. Due to the smaller kill of poultry, some sources are turning to animal protein to replace poultry meal and poultry by-products.

Although animal greases and tallow are at a very economical price, demand has failed to pick up as expected.

Cottonseed oil meal for the nearby position was fairly well sold up in this market. With some mills changing from cottonseed to soybean crush, supply in Memphis the next 30 days could be quite light. Some interest was displayed in forward offerings, but in most cases buyers were reluctant to buy ahead.

Soybean oil meal showed signs of easiness as the trade was not absorbing offerings readily. Improvement in the broiler market may bring renewed buying interest. However, at the present the trade considers the soybean oil meal market a dull affair.

After millfeed showed vigorous strength and aggressive buying which carried prices up the previous week, the demand subsided. This came as increased offerings forced prices down the past few days. The demand is still fairly good, mostly for nearby shipment.

Oilseed meal futures were irregular on the Memphis Board of Trade, compared with one week earlier.

Bulk solvent cottonseed oil meal increased $1 per ton and unrestricted soybean oil meal declined 25¢ to 50¢.

Dealings for the period amounted to 200 tons of unrestricted soybean oil meal and 200 tons of bulk solvent cottonseed oil meal.

Southwest

KANSAS CITY: The prices of major ingredients this week were mostly lower, and the lower levels were attributed to a slower feed demand.

Soybean oil meal was about $2 to $2.50 lower for the week, and the urgent spot demand, which has prevailed and which has caused premiums for spot shipment, has now disappeared.

Cottonseed meal held its firm tone with its demand for this product mostly in the south and only very small takings moving into the northern areas due to the low prices on a competitive basis with soybean meal.

Millfeeds were lower again this week reflecting the heavy flour grind and a slightly slower mixed feed business. Takings of millfeeds however were slightly better at mid-week at the reduced prices.

FT. WORTH: With no hard freeze in this area as yet, there was no great improvement in demand for feed ingredients, and it is not expected until severe weather sets in.

Most prices were steady, but old process cottonseed oil meal was scarce and $1 higher; oat millfeed was up $1 and reground oatfeed $3.

The following declines were reported: Molasses, ½¢ gal.; cottonseed hulls, $2; soybean oil meal, 50¢ to $1; bulk bran, $1.50; bulk shorts and middlings, $2.50; sacked bran, $1, and sacked shorts, $2.

West

SEATTLE: Soybean meal weakened $2 per ton here this week. Canadian herring meal remained unchanged at $1.90 per unit, Vancouver, B.C.; however, packers and fishermen have reached an agreement, and fishing has resumed.

Barley firmed $1 per ton due to strong export demand.

Millrun was firm with light offerings and good demand.

PORTLAND: Feedstuff values followed a mixed trend. The market's narrow movement was towards the higher side.

Wheat millfeed prices carried a firmer feeling this week in front of a broader demand while soybean meal quotes worked 50¢ to $1 a ton lower. Cottonseed meal values advanced by the same amount.

Feeds: Average Bulk Prices and Index of Weighted Prices*

(Dollars per ton)

	Nov. 21, 1961	Nov. 14, 1961	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	67.15	70.10	—2.95
Cottonseed meal	63.75	62.80	+ .95
Linseed meal	66.00	65.35	+ .65
Copra cake or meal	58.75	58.75	...
Peanut meal	63.00	63.00	...
Index	86.0	88.2	—2.2
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	79.10	80.20	—1.10
Tankage	88.50	89.15	— .65
Fish meal	113.90	113.50	+ .40
Index	76.5	77.0	— .5
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	46.85	46.00	+ .85
Dist. dried grains	50.45	47.45	+3.00
Brewers dried grains	45.50	43.50	+2.00
Index	73.5	71.3	+2.2
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	43.80	44.25	— .45
Midds. and shorts	44.40	45.40	—1.00
Index	79.7	81.0	—1.3
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	47.50	46.95	+ .55
Rice bran	33.00	33.00	...
Index	72.6	71.8	+ .8
ALFALFA MEAL			
Prices at prin. mkts.	49.65	49.45	+ .20
Index	95.6	95.2	+ .4
MOLASSES, FEEDING			
Prices at prin. mkts.	26.38	26.48	— .10
Index	78.5	78.8	— .3
ALL FEEDSTUFFS			
Index	81.5	82.7	—1.2
FEED GRAINS			
Prices at prin. mkts.:			
Corn	39.40	39.60	— .20
Oats	45.40	45.50	— .10
Barley	47.30	47.90	— .60
Grain sorghums	38.40	38.70	— .30
Index	64.7	65.0	— .3

*Base period of index is 1947-49.
Source: USDA.

Other Reports

MOLASSES: Corn molasses (hydrol) shipments in September were 1.6 million gallons compared with 1.8 million in August and 2.0 million in September last year, according to figures announced by the U.S. Department of Agriculture.

This brings total shipments in the first nine months of 1961 to 17.2 million gallons compared to 17.1 million in the same months a year earlier, USDA said.

Hawaiian cane blackstrap molasses production in the month of October was 23% less than in September but 21% more than in October a year earlier, according to the U.S. Department of Agriculture. Cumulative production during the first 10 months of 1961 is said by USDA to be about the same as in the similar period of 1960.

QUOTES

(Continued from page 90)

supply adequate; bran $47, middlings $48, up 50¢.

Boston: Demand lighter; trend unsettled; supply adequate; brain $52, down $1.60; middlings $54, down $1.60.

Seattle: Demand good; trend firm; supply fair; $39, delivered common transit points, carlots, unchanged.

Denver: Demand and trend steady; supply ample; shorts $43, down $1.75; bran $44.25, down $2; millrun $43.75, down $3.25.

Portland: Demand dependable; trend fully steady to firm; supply adequate; $38.50@39, sacked.

Buffalo: Demand fair; trend lower; supply adequate to good; bran $43, off $3.50; middlings $43, off $3.50; red dog $47.50, off $5; all prices f.o.b. Buffalo.

Ft. Worth: Demand good; trend lower; supply tight for immediate shipment; bran, bulk $45, burlaps $49; gray shorts, bulk $46.50, burlaps $50; middlings, bulk $46, delivered Texas common points; bulk bran down $1.50, bulk shorts and middlings down $2.50, sacked bran down $1, sacked shorts down $2.

Kansas City: Demand fair; trend steady

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to weaker; supply tight; sacked bran $40.50 @41, down $1; sacked shorts $39.50@40, down $3.50; bulk bran $35@36.50, down $3.50; bulk shorts $37@37.50, down $2; bulk middlings $36@36.50, down $3.

Minneapolis: Demand good; supply tight; sacked bran steady to 50¢ higher $42@42.50; sacked middlings off 50¢@$1, $42@42.50; sacked red dog steady at $44.

Chicago: Demand easier; trend easier, off $2@4; supply plentiful; standard bran $41.50, standard midds. $42.50, red dog $43.

MOLASSES

Los Angeles: Demand good; trend steady; supply ample; $24.50, f.o.b. tank cars; $24.75, f.o.b. tank trucks; both unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12¾¢ gal., New Orleans, unchanged.

Memphis: Demand fair; supply ample; trend steady; blackstrap 12½¢ gal., tank car, f.o.b. New Orleans, unchanged; $27.17, delivered Memphis, truck, unchanged.

St. Louis: Demand slow; trend steady; supply ample; blackstrap 12½¢ gal., tank cars, New Orleans, unchanged.

Boston: Demand good; trend steady; supply ample; 16½¢ gal., tank cars, unchanged.

Buffalo: Demand fair to good; trend steady; supply good; 16½¢ gal., f.o.b. Albany, unchanged.

Atlanta: Demand good; trend steady; supply limited; citrus $20, f.o.b. Florida processing plants, unchanged.

Kansas City: Demand fair; trend weaker; supply ample; 12¾¢ gal., New Orleans, down ¼¢.

Denver: Demand fair; trend steady; supply ample; $32.70, tank car, unchanged.

Ft. Worth: Demand fair; trend firming up; supply sufficient; blackstrap 13¼¢ gal., f.o.b. Houston, truck $29.36, delivered Ft. Worth, seller's market price on date of shipment, down ¾¢ gal.

Minneapolis: Demand good; supply adequate; $33 for blackstrap, tank truck, delivered Twin Cities; $32 for blend, both steady.

OAT PRODUCTS

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $48@47, unchanged.

St. Louis: Demand good; trend firm; supply tight; white pulverized $43, unchanged; reground oat feed $21, up $3.50.

Boston: Demand good; trend firm; supply fair; white pulverized $54.60, sacked, unchanged; reground oat feed $28.50, up $3.50.

Minneapolis: Demand good; supply adequate; prices unchanged; sacked feeding rolled $84; sacked feeding oatmeal $70; sacked crimped $63; sacked pulverized $46.50; sacked oat feed $20.

Ft. Worth: Demand fair; trend firm; light offerings for immediate; 10% protein oat millfeed $42, sacked, up $1; reground $29.90, sacked, up $3.

Chicago: Demand fair; trend, $1.50 up on reground, steady on others; reground oat feed $17; No. 1 fine ground feeding oatmeal $73; feeding rolled oats $76@79.

PEANUT OIL MEAL

Los Angeles: Nothing available for quotation.

POULTRY BY-PRODUCTS

Los Angeles: Demand good; trend steady; supply adequate; $1.55 a unit of protein, sacked, unchanged.

Memphis: Demand slow, trend steady; supply light; 55% meal $85.50, nominal, sacked, up $3.

Boston: Demand and supply light; trend steady; $85, unchanged.

Atlanta: Demand good; trend steady; supply short; meat meal $77, f.o.b. Alabama and Georgia production points, unchanged.

Ft. Worth: Demand good; supply very scarce; $62.50@65, sacked, f.o.b. Texas plants, down $2.50.

RICE BY-PRODUCTS

Los Angeles: Demand slow; trend steady; supply limited; California production, high fat content, bran $53, sacked, unchanged.

Buffalo: Demand fair to good; trend steady; supply only fair; $56, sacked, f.o.b. Buffalo, unchanged.

Ft. Worth: Demand fair; trend steady; light offerings on standard rice bran, sufficient on solvent; standard rice bran $37, sacked, f.o.b. Houston; solvent rice bran $30.50 bulk, $34.50 sacked, f.o.b. south Texas rice mills, unchanged.

SOFT PHOSPHATE

(Sacked, delivered)

Atlanta: $20.25.
Buffalo: $35.50.
Chicago: $24.96.
Cincinnati: $23.64.
Des Moines: $25.42.
Kansas City: $25.07.
Memphis: $22.28.
Minneapolis: $28.12.
Philadelphia: $24.51.
St. Louis: $24.33.

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SCREENINGS

Cincinnati: Demand good; trend steady; supply adequate; unground grain screenings $20.75@22.75, unchanged.

Los Angeles: Demand slow; trend steady; supply adequate; ground barley $35, sacked, unchanged.

Minneapolis: Demand fair; supplies ample; prices unchanged; unground Canadian $19; domestic lights $3@10; domestic mediums $12@20; domestic heavies $20@28; 15% flax screenings $40.

Chicago: Demand and supply fair; trend steady; ground grain $30.50, Canadian $24.50.

SOYBEAN OIL MEAL

Los Angeles: Demand slow; trend weaker; supply ample; $79.10, down $2@3.50.

Boston: Demand cautious; trend easier; supply adequate; 44% $54, off $3; 50% $61, off $2@3; both quotations f.o.b. Decatur.

Memphis: Demand fair; trend lower; supply ample; prime 44% solvent $60, f.o.b. Memphis, up $1.

Cincinnati: Demand good; trend lower; supply adequate; $58, Decatur, down $3.

St. Louis: Demand fair; trend easier; supply ample; 44% $57, Decatur basis, $3.50 lower.

Minneapolis: Demand good; supplies adequate; 44% off $1@1.50 to $51.50; 50% off 50¢@$1 lower to $59; 41% expeller off $1.50 to $58.50.

Seattle: Demand fair; trend easy; supply ample; $80.10, delivered, carlots, down $2.

Kansas City: Demand slow; trend steady to weak; supply ample; 44% solvent $55.50 @56, down $2.

Atlanta: Demand fair; trend steady; supply good; 44% $66.20, delivered, down $2.

Denver: Demand good; trend steady; supply ample; $68, down $3.

Buffalo: Demand fair; trend lower; supply fair to good; $54, Decatur, off $3.

Ft. Worth: Demand fair; trend lower; supply sufficient; 44% $66.50@68.50, December, down 50¢@$1; $66@68, January through March; 50% $73.30@74.50, down 50¢@$1; $73.80@74, January through March.

Portland: Demand dependable; trend easier; supply ample; 44% $79.60; 50% $85.60.

Chicago: Demand fair; trend lower by $2@2.50; supply ample; Decatur basis, 44% protein, unrestricted billing $67 and E.T.L. $54; 50% protein, unrestricted $62 and E.T.L. $59.

TANKAGE

Cincinnati: Demand fair; trend steady; supply ample; 60% digester $86.50, Cincinnati, down $1.

St. Paul: Demand fair; supplies adequate; price steady at $89@94.

Kansas City: Demand good; trend steady; supply tight; 60% digester $87.50, unchanged.

Ft. Worth: Demand fair; trend steady; supply scarce; 60% digester $87.50, sacked, f.o.b. Ft. Worth, unchanged.

Chicago: Demand and supply fair; trend steady; 60% protein $95, sacked.

UREA FEED COMPOUND

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $105 bagged, $99 bulk, delivered in all states east of and including New Mexico, Colorado, Wyoming and Montana.

LaPlatte, Neb., and South Point, Ohio: Minimum 42% nitrogen, 262% protein equivalent $96, f.o.b. bagged; $90, bulk, cars or trucks; freight equalized with nearest producing point.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent, $95 bagged, $91 bulk, f.o.b. Pryor, freight equalized with nearest producing point; $100 bagged, $96 bulk, delivered in cars or trucks to New Mexico, Colorado, Wyoming and all states to the East.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Los Angeles: Demand good; trend easier; supply adequate; 5¾¢ lb., down ¼¢.

Ft. Worth: Demand good; trend steady; supply sufficient; 4¾¢ lb., f.o.b. north central Texas, unchanged.

BROILERS

(Continued from page 1)

largest gathering of broiler people ever to assemble gathered at 2 p.m. and as the sun went down, the meeting was still going—with no action taken, just as in Atlanta.

Spot checking reactions on the part of people who were at one or both meetings brought veiled comments that marketing orders are far from a cut-and-dried certainty.

Therefore, the USDA men returned to their desks without a mandate in favor of anything.

Two well-informed sources went so far as to make the prediction that orders are possibly not as popular as they were a few weeks ago. One spokesman said that he honestly believes that in spite of all the talk that if a poll were made this week, a majority would be against them. Yet a few weeks ago, he said, they likely would have passed.

Still another said he also has some doubts now. Incidentally, this same man remarked several months ago that he hoped broilers would drop to 9¢ "and then maybe the industry can get together and get some action in Washington."

In still another meeting, in North Carolina, the Orange County Poultry and Egg Assn. voted in favor of controls on both broilers and eggs at the farm level but asked that a plan be adopted similar to the tobacco production control program. The association voted to send letters to the state's Washington delegation. But significantly, the association voted down marketing orders controlled at the hatchery or processing levels.

These were termed "half-way measures, totally inadequate to protect the interests of producers at the farm level."

USDA officials appeared to be using the "hard sell" at meetings in Atlanta and Columbia. They went into great detail as to how orders work in other fields, and how they might work for broilers.

Atlanta Meeting

Some rather cryptic remarks were made regarding American agriculture in general, especially at the Atlanta session.

USDA brought its top talent to town for the Atlanta meeting. These included Byron C. Allen and Dr. James T. Ralph, assistant secretaries of agriculture; S. Loy Ray, a marketing order expert from Colorado, and J. F. Bennett, another marketing specialist.

Dr. Ralph said that present day agriculture is "inconsistent with our way of life today." Unlimited production in agriculture will only bring more surpluses and stabilization would be a good thing, he said, but government supervision would have to provide the means of supervising food production.

E. C. Cochran of Virginia explained what had been accomplished so far in turkey orders and that because the industry itself had had no experience in marketing orders, data was being supplied largely by the department of agriculture.

Dr. Ralph did not appear at the Columbia meeting due to transportation difficulties.

"Unusual Statements"

Some rather unusual statements came from Dr. James Ralph, who was the star of the Atlanta session. For example, he said: "Agriculture today is inconsistent with the American way of life."

"There's been too much superefficiency of American agriculture, which has contributed to low prices, and," he said, "the American principle of free enterprise is non-existent."

He gave as an example the steel industry; that an American farmer could never control a steel firm, although anyone in the steel business could raise chickens. Reporters covering the Atlanta session noted that this caused some comment in the audience. One man pointed out that he, as a poultryman, owns some steel stock and that it would not be inconceivable that he could in some manner control the company or its policies.

Then Dr. Ralph launched into a theme of stabilization of agriculture, saying it would be good for the nation. Contending that farmers cannot work together voluntarily, he said government support in some fashion is the only answer.

J. F. Bennett of the division of agricultural economics explained how California administers marketing orders but hastily added that they do not mean the end to all problems.

Taking the opposite view at South Carolina to the USDA officials was O. H. Green, ardent foe of any form of government control, and when he had concluded there was a round of loud applause for the Spartanburg hatcheryman, who said turning to Washington for assistance isn't going to help the industry pull out of the spot it finds itself in.

Time after time he was interrupted by loud applause by the audience.

The South Carolina meeting saw Mr. Green in rarer form than usual as he tore into the matter of government controls. He referred to Dr. Ralph as "Mr. Marketing Order, Himself."

USDA officials, he said, are living out of suit cases stomping the country to sell poultry people on marketing orders.

"That we have problems is the understatement of the year. Why we have problems is not so clearly understood," he said.

He proceeded to list 11 of the causes of the poultry industry's headaches. They were:

"1. The very government intervention in the form of marketing orders or controls that I oppose today is one of the basic causes of our plight in broilers and turkeys. With cotton, peanut and tobacco acreages curtailed by various government programs, it is apparent, farmers realized that they could not make a living with their limited quotas and, seeing a free and vigorous poultry industry, they came in, which was the natural thing to do.

"2. There is not the slightest doubt that the firm belief on the part of too many that government marketing orders were inevitable, and would come at the last session of Congress, led to the vast headaches that we have, particularly in turkeys and in broilers. Countless parties set about to establish quotas that would stand them in good stead when marketing orders came.

"3. Another cause of our plight today is the very efficiency that has typified our industry these past few years. Our efforts in the fields of automation, volume production, volume feed manufacturing—all well intentioned practices to lower costs—have resulted in our producing more than we can sell at a profit.

"4. Much of our industry is dependent upon big feed or banks for their operating capital. Our job today is the management of money.

"5. I am not one who feels that grocery chains are to blame for our plight. But they are having a field day at our expense as we go merrily ahead overproducing broilers and turkeys. Housewives today have the idea that our delectable products are worth no more than the bargain riot prices so often placed on them.

"6. The recent meeting of 12 major poultry organizations in Cincinnati revealed that methods of bookkeeping and tax paying on the cash basis rather than acerual had something to do with our continued expansion in an already overdone production.

"7. Finally, it must be obvious that mergers, consolidations, and more integration have turned our industry into a battleground for matters of everyday business conduct.

"8. Marketing is a necessity. What we now need is to show some selling genius. It is time that we say that production without profitable sales is sheer folly.

"9. Research—We are now at the place where we need to spend more on marketing research and preparation and less on production.

"10. If the government wants to help our industry, what about cutting off the loans that are designed to feed fuel to expansion that is unwarranted?

"11. Accept your responsibility as a member of this great industry and refuse to be stampeded into the bad practices of the past several months. Become a part of your government by knowing what goes on in your county, state and federal governments. Determine that this poultry industry is worth saving—or get out of it, and let those of us who feel that it is worth saving do the job."

Jack Churchill filled in on the program at Columbia when Dr. Ralph could not arrive.

He said the purpose of the USDA under Secretary Freeman's administration is to protect as well as promote agriculture and then he added that "widespread ownership is its (American agriculture) own worse enemy."

When Congress convenes after the first of the year, proposed legislation may fall by the wayside as it did last fall when efforts were made to push through legislation in the waning hours of the last session.

Considerable discussion is taking place at the meetings on controls as

to what would be called a producer.

At the Atlanta meeting, James T. Ralph, assistant secretary of agriculture, was called upon for a definition of a producer. He was asked to define whether a feed dealer or processor might be termed a producer.

His reply was that it would probably include anyone who has a financial interest in production.

A suggestion was put forth that the national legislative program should come through the Poultry and Egg National Board.

At Columbia and Atlanta, it was emphasized that marketing orders are no cure-all for any commodity. Rather, it should be looked upon as a tool "whereby the economic situation may be helped."

The broiler market this week was in the neighborhood of 12¢ lb., which was hopeful to say the least, and gave producers a little more courage in view of the fact that the holiday season has arrived. The live market was steady, but ready-to-cook demand was slow, with plants curtailing processing until after the first of the year.

The 12¢ price was paid on farms and there were instances where prices ranged up to 13¢.

CAT FOOD

(Continued from page 1)

Aldenhoevel said. The Carnation cat food product "Little Friskies," was originally designed and sold as a food for small dogs to meet an objection that the regular sized product was cubed too large for smaller animals. While conducting a routine survey to learn more about users of Little Friskies, the Carnation Co. found that the majority of its customers were cat owners. The product, package and sales direction then were switched to the cat owner field, with highly satisfactory results, he said.

Mr. Aldenhoevel said research had indicated that only 60% of the total food consumed by cats is a prepared cat food. A large potential exists for possible expansion, he added. Although 57% of all cats are on farms, the purchases of cat food by farmers account for only 19% of the total cat food sales. This discrepancy he attributed to the fact that "working" cats on a farm are not encouraged to neglect their mousing duties and thus get no heavy feeding.

Mr. Aldenhoevel said that copy tests had shown that appeals to ease of preparation and elimination of mess and bother were the most effective in selling dry cat food. In second place was the factor of continued freshness and non-spoilage, making it possible to set up a program of ad lib feeding. He added that he felt that the second appeal might eventually become the major one. Cat owners are not particularly concerned with the details of what goes into a cat food, he said, beyond the point where they feel assured that the producer of the product is doing an honest job of providing balanced nutrition. This would not be true of advertising to veterinarians and other specialist groups, he pointed out.

Little Friskies is now in first place among dry cat foods, the speaker said, and its promotion is being stepped up next year to include two major national network shows. Mr. Aldenhoevel said that he expected more competition to develop in the dry cat food field and felt that this would not be harmful to sales of his company's product, as the competition would help expand the whole market.

Carnation also is developing special sales and advertising programs to the veterinarians, Mr. Aldenhoevel said. Surveys have shown that 33% of all pet owners feed what their veterinarian recommends. Other market studies he cited revealed that 24% of all families own cats and that 30% of dog owning families also own cats.

PROCESSORS

(Continued from page 1)

Mr. Danforth is quoted by William H. Kester, St. Louis Post-Dispatch writer, as saying there is a trend toward integration of feed production with operations that raise and process poultry and that other feed manufacturers also are acquiring or considering purchase of poultry processing firms.

In the past three months, the financial editor notes, Purina has acquired three poultry processing firms "with sales totaling about $27 million a year."

According to the St. Louis newspaper, Mr. Danforth said the three processing firms, Purina's first purchases of that type of operation, were profitable and are expected to add to the company's profits in the current fiscal year. Mr. Danforth also told the newspaper that although Purina sold feed to two of the three operations acquired, the acquisitions were not "credit close-outs."

The three processing firms acquired by Purina and their annual sales were: Ft. Halifax Poultry Co. and Ft. Halifax Packing Co., both of Waterville, Maine, $6 million; Smith's Pride, Inc., Trussville, Ala., $10.2 million, and Colonial Poultry Co. of Alabama, Inc., Albertville, Ala., $11 million.

Mr. Danforth told Mr. Kester that the depressed poultry industry should be profitable if handled on a business-like basis, and price fluctuations should be less as a result. He also indicated that integration of the various stages involved in producing and processing poultry is expected to provide a satisfactory level of profits for the industry.

STUDY

(Continued from page 4)

bird which brings higher prices in market channels. This higher price is necessary to cover a higher raw product cost, Dr. Helbacka notes.

All areas considered in the study show similarities in the number of birds dead on arrival at processing plants. Greater plant efficiency was indicated for Delmarva in higher output per man hour. Dr. Helbacka observes that a generally larger bird may have some influence on this factor.

Higher wages were observed as contributing to greater labor and overhead costs in Delmarva.

The study indicates that processors in all areas have some shortcomings in sound quality control procedures. Another factor that does not receive proper attention, according to the investigators, is the selling and merchandising of ready-to-cook poultry.

Analysis of supply, cost and price relationships indicates that the price received by southeastern processors is influenced by the supply of broilers available weekly. In Delmarva, however, the supply of birds produced is not the major factor in determining prices received for ready-to-cook broilers, according to the study. Instead, the price is affected by the amount produced in the other major broiler areas.

No-Grazing Ban Lifted

WASHINGTON—The U.S. Department of Agriculture has modified 1961 feed grain program provisions to lift the ban against livestock on diverted acreage for the remainder of the year.

The move will permit farmers to salvage dropped corn ears and other crop residue by turning livestock on cropland without being put to unreasonable work and expense for protective fencing in instances where acres removed from production are in fields which have been harvested.

TENNESSEE

(Continued from page 1)

Brokerage Co., Nashville. Those who will continue as directors are: M. E. Staed, Ralston Purina Co., Nashville; George P. Moseley, Quaker Oats Co., Memphis; J. G. Johnston, Security Mills, Inc., Knoxville; D. J. Paul, Buckeye Cellulose Corp., Memphis; C. T. Whitworth, Nutrena Mills, Inc., Memphis; Robert Moon, American Cyanamid Co., Goodlettsville, and Mr. Gambill.

BLOAT

(Continued from page 1)

the severity of bloat were less in the antibiotic-fed animals. Most of the bloat in the antibiotic group was in animals which refused to eat the prescribed amount of antibiotic supplement.

Dr. Jacobson said the field tests were conducted with two pelleted feeds, similar in every way except that one contained the antibiotics.

Dr. Jacobson termed the results of the field tests "encouraging." They continue to point to the possibility of practical control of bloat under farm conditions. However, more research is necessary to learn more about the effect of antibiotics in bloat, he said.

The tests were conducted with both beef and dairy cattle, largely steers, but no lactating dairy cows were used. Some sheep also were included, but the observations were not extensive enough to permit conclusions.

Farmers participating in the tests placed part of their cattle herd on the bloat-preventing pellets and the rest were fed pellets containing no antibiotics. All were allowed to graze pasture, largely alfalfa in most cases. The length of the on-farm tests varied from as few as 20 days in one test to 128 days in others.

There were 362 animals on the control pasture — without treatment — and 474 on the antibiotics. Total cow days on test amounted to 23,164 days for the control lots and 33,325 days for those receiving the antibiotic feeding program.

EFFECT

(Continued from page 1)

in October egg-type chick production and another big percentage gain indicated for November, statistics tend to paint a dark picture for the egg market next year.

However, these statistics fail to paint into the background some solid substance which is necessary in considering the egg market outlook.

Some informed officials here told this reporter that while the data loomed large, the statistics failed to take into consideration the background of the market for next year.

One source here senses that the indicated increase in output of egg-type chicks at this time may in considerable measure reflect a probable replacement early next year of older laying hens and that by April, during the main hatching season, the production advances now registered will be washed out to a considerable extent.

The overtones are that lower egg prices may be imminent but that they will recover next year despite the eruption which the latest hatchery report provoked.

Commodity markets are seeking renewal of the dried egg buying program to offset surface indications of the hatchery report. At this time there is no indication of such renewal.

There is no specific seasonal pattern for dried egg procurement on the basis of past experience.

Dried egg buying has been geared primarily to the price of shell eggs of top grade at the Iowa country points. At this time USDA reports that U.S. grade A large white eggs have been selling at 28¢. Previously USDA never intervened in the shell egg market before Iowa point shell eggs broke to a range of 23-24¢. That condition may not precisely apply, but officials believe that certainly a dried egg program is not imminent at the prevailing country point prices for eggs.

Another factor which must be considered on the basis of the foregoing is that this administration is politically-minded and won't spare the administration dollar — notwithstanding budget pressures—if dollar disbursement will influence the farm voters in the farm belt. And again, however, it may be more important to influence higher egg prices later next year than at this time. This administration spends money to obtain objectives, but they spend it with exquisite discretion at times when the dollar spent buys more votes.

WASHINGTON

(Continued from page 1)

sell more concentrates to dairymen.

- Heat treating of cereal grains and wheat by-products improved the response of birds to dietary enzymes.
- Too high a calcium level in the breeder hen diet was detrimental to hatchability of eggs from young breeder hens.
- The nutrient requirements of birds fed pelleted diets may be higher than those for birds fed mash diets.
- The nutritional history of beef animals before being placed on a high energy ration will markedly affect the daily rate of gain.
- Although yolk color was slightly lowered, high levels of vitamin A do not seem to explain the appearance of "platinum" yolks in the field.

The following are summaries of the seven major talks presented at the conference:

PRODUCTION COST OF FRYERS MARKETED AT DIFFERENT AGES—Dr. Lawrence R. Berg of the Western Washington Experiment Station discussed experiments to determine the most economical time to market broilers. Birds were marketed at 9, 10½ and 12 weeks of age. He also studied the effects of reduced protein level after 6 weeks of age on performance of the broilers and cost of production.

Lowering the protein level from 20 to 16% did not markedly reduce growth rate or feed efficiency when the birds were marketed at 9 weeks of age. With birds marketed at the later stages, however, both growth rate and feed efficiency were lower at the lower levels of protein. Best results were obtained when a protein level of 18% was fed from 9 to 12 weeks of age.

The birds were followed through the dressing plant and the total cost per pound of dressed broiler was estimated. This was 26.14¢ for broilers marketed at 9 weeks, 25.77¢ for broilers marketed at 10½ weeks, and 24.93¢ for broilers marketed at 12 weeks. Breast blisters were a problem in the older male birds. The percentage of blisters was 8, 18 and 31% of the males marketed at the ages of 9, 10½ and 12 weeks, respectively. Despite this problem, the yearly return for houses of 1,000 birds for 9, 10½ and 12 weeks of age was calculated to be $329, $573 and $446, respectively. Thus, based on the results of this experiment, it would be advantageous for the broiler producer to market his birds at 10½ weeks of age.

FEED MANAGEMENT AND THE GENE IN RELATION TO MEAT QUALITY—Dr. A. J. Wood from the University of British Columbia discussed the importance of nutrition during the prenatal period. He stated that a nutrition deficiency or other stress may markedly increase the incidence of the particular anomaly in animals appearing to have a predisposition for the anomaly. He cited an example of a strain of mice which produces about 5% of its young with one eye or no eyes. If the pregnant

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
September 16	1,166	256	683	658	74	643	1,518	1,945
September 23	674	269	655	521	72	639	1,407	1,918
September 30	1,126	291	625	478	57	649	1,379	1,937
October 7	1,137	248	644	494	56	573	1,355	1,667
October 14	1,058	219	600	449	66	607	1,259	1,853
October 21	953	236	432	456	18	593	1,184	1,888
October 28	1,159	257	539	455	38	571	1,514	1,907
November 4	1,165	242	701	517	65	679	1,529	2,056
November 11	1,105	244	763	569	54	684	1,695	1,911
November 18	1,148	296	741	622	53	694	1,519	2,022

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
September 16	817	249	3,130	363	5,834	199	3,343	2,134
September 23	682	369	2,989	345	5,661	216	3,286	2,098
September 30	736	247	3,029	379	5,712	156	3,376	2,156
October 7	739	245	2,979	348	5,325	151	3,388	2,001
October 14	712	273	2,889	345	5,455	157	3,372	1,944
October 21	711	245	2,738	322	5,274	174	3,204	1,926
October 28	666	176	2,761	373	5,433	198	3,278	2,138
November 4	716	263	2,816	316	5,512	201	3,474	2,123
November 11	776	353	2,877	349	5,551	205	3,476	2,153
November 18	724	374	3,014	315	5,629	224	3,397	2,206

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1961	Total 22 areas 1960
September 16	3,713	368	1,922	225	170	979	30,389	28,624
September 23	3,564	382	1,816	282	141	980	28,966	28,656
September 30	3,616	402	1,782	234	176	1,047	29,610	28,551
October 7	3,579	394	1,666	296	176	1,082	28,548	28,442
October 14	3,468	407	1,632	291	141	1,049	28,246	28,355
October 21	3,441	337	1,700	261	78	943	27,094	28,165
October 28	3,312	350	1,726	221	109	948	28,128	28,639
November 4	3,107	397	1,759	235	168	945	28,986	29,157
November 11	3,327	371	1,741	236	191	989	29,620	29,970
November 18	3,462	369	1,788	294	171	1,083	30,145	30,282

female is starved overnight on the 8th to 9th day of pregnancy, the number of defective young will suddenly increase to as many as 20%. Dr. Wood also cited a Danish report that the incidence of swine rhinitis may be related to adequacy of vitamin A in the sows' ration.

Dr. Wood also discussed the nutritional environment during the early part of the post-natal growth on the subsequent meat quality of the animal. He cited a report which suggested that either a dairy cow phenotype or beef phenotype can be obtained in dairy breeds by the type of feeding program used. A Holstein bull reared on a high plane of nutrition for the first 6-7 months and then placed in the feed lot on a high energy ration will have a beef phenotype. When butchered and dressed, the carcass will be nearly indistinguishable from that of a beef breed, Dr. Wood said.

RESPONSE OF DAIRY COWS TO HIGH LEVELS OF GRAIN FEEDING—Dr. F. R. Murdock of the Western Washington Experiment Station, in summarizing published results from other stations, stated that cows generally respond with higher milk production to increasing levels of grain feeding. Work at Ohio, Michigan and Kentucky was cited. In the Michigan work, phenomenal milk production was obtained with some cows fed unlimited grain without any signs of stress.

Dr. Murdock also reported on an experiment recently completed at WWES. It involved the feeding of high and low levels of concentrate with high and low levels of hay. The cows were also fed a high moisture grass silage ad libitum. Although milk production was slightly higher for the animals receiving the higher levels of concentrate, an economic analysis based on West Coast prices revealed that the practice was unprofitable.

Dr. Murdock concluded that individual cows respond differently to varying levels of nutrition. Some cows have the inherent ability to convert large sums of feed, including concentrates, into milk, while others simply get fat. A good feeding program is one geared to a good testing and record keeping program, Dr. Murdock said.

SELLING MORE CONCENTRATES THROUGH FORAGE TESTING—Dr. T. H. Blosser, new chairman of the department of dairy science at WSU, told the feed men that encouraging dairymen to test their forages should result in the selling of more concentrates. Dr. Blosser said that evidence is accumulating that cows of inherently high producing ability can economically be fed sizable quantities of grain. The poorer the forage, the more grain should be fed.

In the first year and a half of the Washington State forage testing program, more than 500 samples have been analyzed. "It is clear from these analyses that much of the forage fed is of inferior quality; in many cases the farmer is over-estimating the quality of this forage and not feeding enough grain nutrients to balance his ration economically," stated Dr. Blosser.

RECENT ADVANCES IN BEEF CATTLE NUTRITION—Dr. Irvin A. Dyer, WSU, summarized experimental results with beef cattle involving mineral, vitamin, enzyme and tranquilizer supplementation. Dr. Dyer presented convincing evidence that the crooked-calf syndrome which has been prevalent in Washington and other states is of nutritional origin. Analysis of the water supply on two farms in the same area, one having the problem and the other not, revealed a large difference in manganese content. Other evidence presented indicated that the crooked-calf syndrome is caused by a deficiency of manganese.

Several enzyme supplements were shown to improve the average daily gain and feed efficiency of beef cattle fed rations containing a high level of barley. Evidence was presented that pelleting of a concentrate containing enzymes destroys the active factor. Dr. Dyer also presented results showing that choline and tranquilizers stimulated gain in beef cattle and improved feed utilization.

INFLUENCE OF PELLETING ON ENERGY CONTENT OF FEED AND NUTRIENT REQUIREMENTS OF POULTRY—Dr. Leo S. Jensen, WSU, summarized several years of work investigating the basis for the improved growth rate and feed efficiency obtained with pelleted feeds. It was reported that the metabolizable energy content of the ration fed in pelleted form was slightly increased, but that a marked increase in productive energy was observed. Observation of the feeding habits of individual birds showed a marked difference between birds fed mash and pellets in the amount of time spent eating feed. This probably accounted for the big difference in productive energy.

Because available energy is increased by pelleting and because other nutrients are required in relation to available energy, it was postulated that nutrient requirements would be higher per unit of feed for birds fed pelleted feeds. Work with developing turkeys was cited to indicate that the protein requirement was higher for birds fed pellets than for those fed mash. (A more complete report of this work is presented elsewhere in this issue of Feedstuffs).

GROWTH AND DEVELOPMENT OF ANIMALS—Dr. Wood in a second talk made the point that the rate at which cattle gain in the feedlot depends to a great extent upon the previous nutritional history. He cited studies with deer and mice to show that when animals are restricted on their feed intake, they continue to grow in body size even though they do not grow in terms of weight gain.

In studies with the mouse fed restricted diets, the skeleton became larger and the internal organs continued to grow equivalent to that of a much heavier animal. When the restricted animals were placed back on full feed, they promptly made large body weight gains in a short time period with remarkable feed efficiencies.

Dr. Wood further illustrated his point by relating experiences obtained with the performance testing of beef cattle. In the first such test (which is designed to help select breeding bulls based on rapidity of gain), it was noted that bulls provided by breeders that maintained a high standard of nutrition during the pre-weaning phase of growth, gained at the slowest rate. Bulls reared at a lower plane of nutrition had the fastest rate of gain.

RESEARCH BRIEFS—For the fourth year of the Washington Animal Industry Conference, a series of short research briefs was presented by several members of the WSU nutrition staff. Summaries of these briefs follow:

Vitamin D and Egg Production—Dr. James McGinnis. The importance of vitamin D in the nutrition of laying hens was reexamined. The most striking effect of a vitamin D deficiency was a sharp drop in egg production. Even though birds go out of production, the secondary sexual characteristics remain normal and the bird gives every appearance of being in production. The deficient hens have essentially normally developed oviducts and ovaries, but there is evidence of reabsorption of matured ova. Results of these studies indicate that vitamin D was necessary for ovulation in the laying hen and that it may be needed for the synthesis or release of some of the hormones involved in this process.

Effect of Calcium Level and Hatchability of Eggs from Young Breeder Hens—Dr. L. R. Berg. White Leghorn breeder hens were fed levels of calcium from 1.75 to 3.25% calcium. When the birds were laying at the rate of approximately 30%, eggs were saved for hatching. As the level of calcium in the breeder diet increased, hatchability of fertile eggs decreased. There was an increase in mortality of chicks as the level of calcium in the maternal diet increased. Results of a second hatch of eggs saved four weeks later when the birds were in full lay showed no adverse effect of high calcium level on hatchability or early chick mortality.

The study also involved the effect of calcium level during the growing period on subsequent performance of the birds in the laying house. The birds were fed 0.5, 1.0 and 2.0% calcium from 8-21 weeks of age. Results indicated that level of calcium during the growing period had no significant effect on performance of the birds in the laying house.

Factors Influencing the Response to Enzyme Supplementation—Dr. L. S. Jensen. A greater response to enzymes was obtained when added to diets containing wet autoclaved barley, wheat or wheat mill feed than when added to corresponding diets containing non-treated ingredients. In diets consisting of 63% wheat mixed feed, no improvement in growth rate or feed efficiency was obtained by adding enzymes. However, when the wheat mixed feed was autoclaved after being mixed with either tap water or water containing sodium hydroxide, a significant and consistent response to enzymes was observed.

Effect of a Tranquilizer on Growth, Feed Efficiency and Behavior of Fryers—Gordon E. Bearse, WWES. Feeding several levels of two tranquilizers (methaminodiazephoxide and diazepam) failed to improve rate of growth or feed efficiency. At higher levels, a definite adverse effect on growth rate was observed.

A Comparison of Dried Molasses Beet Pulp and Dried Molasses Beet Pulp Containing Concentrated Stephens' Filtrate as a Feed for Dairy Cows—Dr. T. H. Blosser. Concentrated Stephens' filtrate, a by-product in the reclamation of sugar from beet molasses, is higher in protein and ash than the molasses from which it came. In three trials, the nutrient value of dried molasses beet pulp containing this product was compared with regular molasses beet pulp. Digestibility of dry matter, energy and TDN varied little, and there was no significant difference in the production of fat-corrected milk. "Fishy-flavored" milks were observed in some cows fed the very high levels of beet pulp.

Laboratory Determination of Protein Quality—Dr. McGinnis. A dye-binding method was used to assess the nutritional value of soybean meal subjected to different processing treatments. The method depended upon the reaction of a chemical dye (Orange G) with the basic amino acids lysine, arginine, histidine, and tryptophan. An excellent correlation of change in dye-binding with degree of heat processing of soybean meal and its nutritional value for the chick was observed. With some notable exceptions, the method was also shown to be correlated with the nutritional value of fish meals. The exceptions were caused by a marked deficiency of sulfur containing amino acids which would not be detected by the method used. The results indicate that, with some refinements, a quick laboratory method is available for following the effect of processing on the nutritional value of protein supplements.

Effect of High Levels of Vitamin A on Egg Yolk Color—Dr. Berg. The appearance in market channels of eggs practically devoid of color in recent months has caused concern. These have been termed "platinum" yolks. A study was conducted to determine if high levels of vitamin A could account for their occurrence. Levels up to 100,000 units of vitamin A per pound of ration consistently lowered the color of yolks as measured by the Heiman-Carver yolk color rotor. In no case, however, were egg yolks produced that approached the color of those observed in the field. Therefore, the problem does not appear to be an uncomplicated case of hypervitaminosis A.

Effect of Dipping Chicken Eggs in Antibiotic Solution on Their Hatchability—Dr. Richard R. Chalquist, Veterinary Microbiology Department, WSU (presented by Dr. Jensen). Dipping of eggs in antibiotic solution offers a means of controlling egg-transmitted diseases in chickens and turkeys. To study the effect of dipping eggs in antibiotic solutions on hatchability, half of the eggs produced by a flock of BBB turkeys were dipped in a solution containing 400 parts per million of Erythromycin. The other half served as controls. Average hatchability of fertile eggs for the controls was 63.8% and for the antibiotic-dipped eggs, 70.6%. The results showed that dipping of eggs under these conditions certainly had no detrimental effect on hatchability and, in fact, may have improved it.

MARKETS

(Continued from page 1)

at most mills are taking a back seat, at least for the time being.

Key ingredient prices average lower, with both soybean meal and midlings off. Feed price lists will reflect this downward trend this week.

Pacific Northwest

Buying interest for some formula feeds narrowed somewhat throughout Oregon, Washington and Idaho during the past week as the continued reflection of increased marketing of cattle and tag end of the 1961 turkey crop.

Mountain States

Feed volume in this area is good with more and more cattle moving into the feedlots. And consumption of feeds by the cattle in lots is increasing.

Northern California

In some parts of this area new pasture growth started by early rains now needs moisture. Thus, heavy supplemental feeding of range animals is required.

Egg production is generally at normal seasonal levels.

There appears to be increased demand for dairy feeds as the pastures continue to dry up.

Manufacturers report operations maintain a strong five-day basis with some added time necessary to meet the demand. Turkey feeds have dropped off a great deal as flocks diminish. Broiler and egg mashes continue about the same.

Most ingredients are in ample supply, and there is a growing tendency to limit buying to immediate and fairly nearby needs.

Southern California

With the Thanksgiving holiday the Los Angeles turkey market reached its high for the last few months with toms selling at 18¢ lb., f.o.b. ranch, and hens trading at 20 to 21¢ lb. This price is still slightly below estimated production costs. Supermarkets in this area have been advertising turkey at 29¢ lb. for toms and 33¢ lb. for hens. Feed sales and production continue to slow down for most mills due to heavy turkey processing. This trend will exist throughout December, most industry spokesmen say.

Large and medium egg prices advanced 2¢ in the Fresno market while in Los Angeles small and medium egg prices improved 1 to 2¢ doz. The general feeling here is that egg prices will begin declining in the near future, perhaps even before the Christmas holidays.

The broiler market remains unchanged with the outlook dim until after Jan. 1. Cheap turkey meat is the main competitor at this time. Many producers say a marketing quota system would be desirable.

Beef prices improved about 50¢ with current trading at $23.75 cwt. Several cattlemen predict more favorable prices to producers after Thanksgiving.

Expansions Planned

SEATTLE, WASH.—Two land purchases for future expansions were announced by Western Farmers Assn., Seattle.

A small tract of land adjacent to the firm's feed mill in Granger, Wash., has been purchased to provide space for expansion of services to farmers in that area.

A 22.7 acre site near Walla Walla, Wash., will house a branch headquarters building, and, eventually, a custom feed mill and dry liquid fertilizer plant. The present plant at Walla Walla has been sold, and will be vacated when the new facilities are completed.

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Turkey Association Official Opposes Marketing Orders

MINNEAPOLIS—Federal marketing orders for turkeys and turkey hatching eggs undoubtedly would penalize Minnesota for having become the nation's top turkey producer, a Minnesota Farm Bureau commodity conference here was told.

Clem Thurnbeck, Forest Lake, a director of Minnesota Turkey Growers Assn., outlined the proposed marketing orders in a speech.

One of the order provisions, he said, would be a "set-aside" of supplies coming to market. "This set-aside supply could vary by district or region. States that have smaller production of turkeys would have majority representation on the marketing regulatory board.

"And there's a strong feeling at the national level that any adjustment should fall on areas that have expanded their production—like Minnesota," he added. "It would tend to freeze production trends even though a state like Minnesota has natural production advantages over most other areas," Mr. Thurnbeck was quoted as saying by the Minneapolis Tribune.

Another of the big problems under the proposed order would be how to distribute turkey poults among grower customers of a hatchery.

The orders would control the number of turkeys hatched and also the quantity of turkeys put on the free, domestic market. Both would be effective at handler levels.

The proposed marketing orders can become effective only after public hearings, approval by the secretary of agriculture and approval by a two-thirds majority in a national referendum. The public hearing phase of the operation is now underway. The referendum probably will be held in February, the speaker said.

BUILD ELEVATOR ADDITION

PIERRE, S.D. — Pierre Farmers Elevator Assn. has nearly completed a $40,000 addition to its elevator that will process ground feeds for livestock feeding, James Curran, manager, said.

VITAMIN A

(Continued from page 6)

from urea by means of the rumen's microbial action. But there may be a few which are not synthesized rapidly enough for maximum performance when large amounts of urea are fed. Urea is limited in its use and value because, at present, we do not know all the nutrients required for maximum protein synthesis in cattle," he said.

Three experiments at Purdue during 1960 and 1961 were made to study the effect of adding L-lysine, DL-methionine, methionine hydroxy analog and trace minerals to high urea fattening rations for steers. Lysine, added singly or in combination with DL-methionine, was of no benefit when added to a 32% supplement containing all natural protein. The addition of lysine to 40, 48, 56, 64 and 72% protein supplements with urea made them equivalent to the 32% control containing all natural protein when fed on a protein equivalent basis. The supplements contained 3.7, 7.4, 11.1, 14.8 and 18.5% urea. When 10 gm. of lysine was fed per steer daily, 1 lb. of a 64% supplement (14.8% urea) was equal to 2.0 lb. of a 32% supplement (natural protein) in two of the three tests. Methionine did not significantly improve the 64% supplement. Methionine analog was of no benefit at the 5-gm. level with a high urea supplement and gave a significant depression in rate of gain when fed at the 10-gm. level.

"All of the answers are not known, but this opens a new frontier in ruminant nutrition and will eventually lead to a greater use of urea in ruminant supplements," Dr. Beeson said.

+++

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